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The Seoul Institute Research Abstracts 2017

Chang Yi



서울연구원
The Seoul Institute

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Editor's Note

I am pleased again to present “The Seoul Institute Research Abstracts 2017”, a collection of English summaries for 75 research studies published in 2017. As the Seoul Institute covers a variety of urban planning disciplines, this book includes brief explanations of our policy solutions on many types of urban problems.

The Seoul Institute (SI) was established in 1992 (as the Seoul Development Institute) to formulate long-term growth plans and provide policy solutions for various problems in Seoul. For more than 20 years, the institute has provided guidance and pointed towards a sustainable future. The SI, as a prominent think tank with about 80 PhDs on staff, has conducted comprehensive policy research in a range of different areas.

For each study, this book provides a short background so that international readers can understand the research context. Its purpose is to bring your attention to the research we have conducted here at the SI. I believe that our expertise on urban planning can help city governments around the world resolve problems common to many cities. If any part of this book intrigues you and your colleagues, we have achieved the aim of this publication.

I appreciate the opportunity to share our research outcomes with you, and sincerely hope that our knowledge will assist cities all over the world as we all strive for a sustainable future. This book will also provide potential opportunities for collaborative research with you and your institution. For further information, please do not hesitate to contact me at changyi@si.re.kr.

Best regards,

Chang Yi
Research Fellow
The Seoul Institute

01 Urban Planning

The Issues and Implications of Commercial Gentrification in Seoul

Investment in commercial real estate has attracted the public's attention as Seoul's regional economy has suffered from nationwide low economic growth. The recent trend for luxury goods has been reflected in the development of commercial real estate. Furthermore, information on new commercial areas spreads in shorter periods of time because of the widespread SNS. The ones most hurt in this process are the tenants of existing commercial shops and the original residents of now-gentrified areas. **The Issues and Implications of Commercial Gentrification in Seoul** deals with the negative impact of commercial gentrification on tenants and existing area residents. This report suggests policy solutions to prevent and minimize these negative impacts from excessive commercialization of residential areas.

Sang-Il Kim · Ja-Yun Heo

There are growing concerns about the negative effects of commercial gentrification in Seoul. This study explores the issues and alternatives through a field survey, data analysis, interviews and surveys of shop owners, landlords and residents, to understand the necessity and directions of government intervention in this gentrification. The focus is mainly limited to Gyeongridan-*gil*, Yeonnam-*dong*, and a part of Seochon and Donggyo-*dong*, which have not only new incoming stores, but also older stores. Increasing attention from the media, a greater number of real estate transactions, and soaring rent are commonly observed in these areas.

Landlords have a superior position in commercial building lease transactions, causing an imbalance in supply and demand for store spaces. Using this position, some landlords demand higher rents, induce tenants to carry out duties that are the responsibility of landlords such as those related to building repairs and payment of licensing costs to change building use, and even interrupt building lease transactions between the original and new lessees. High rents limit the kind of businesses that

can become tenants and tend to encourage the intensive concentration of similar enterprises. Competition between similar businesses is a zero-sum game, reducing any advantage normally available to store owners.

Gentrification in residential areas destroys authentic residential environments with greater traffic, parking problems, noise, trash and displacement of neighborhood retail shops. For example, a street once famous for the thirty-year tradition of transport cafes has deteriorated and is now populated by fancy restaurants, cafes and pubs for tourists.

Countermeasures are needed against the balloon effects of commercial gentrification into neighboring areas. Administrative procedures also need to be simplified for political timeliness and institutional strategies in place to encourage landlord participation. Disclosure of information about commercial building transactions can prevent the informational asymmetry that facilitates the signing of unfair contracts.

Current law protecting commercial building tenants cannot guarantee that they can earn profits at least to cover the prior investment and sunk costs, so improvements are needed to some of the legal provisions. However, local economic conditions and characteristics vary too widely to adopt uniform provisions across regions. It is therefore more effective for local government to set their own limits on rent contract periods, rent increases, and business types. To prevent excessive commercialization of residential areas, where businesses are approved through the current zoning system, district unit plans are needed that regulate the type and size of commercial establishments.

Improvement of the Privately Owned Public Space in the District Planning Area

Large buildings create public open spaces nearby for citizens to enjoy. Our study calls these spaces “Privately Owned Public Spaces” or “POPS”. POPS are owned by the private sector, but open to the general public. The authors of **Improvement of the Privately-Owned Public Space in the District Planning Area** examine the current status of POPS and the direction towards improvement.

Hyun-Chan Bahk · Eun-Jung Yang

This study suggests improvements for the system of privately owned public spaces (POPS) in district planning areas of downtown Seoul. POPS are designed to create enjoyable environments for citizens, places in the city where people can walk freely and relax. The importance of such spaces in urban areas has recently been increasing. Large-scale complexes that link walking on the street with walking within the building help to expand and create networks with street spaces thereby increasing usability, accessibility and value for city residents. Overseas, POPS extend into buildings to create a variety of indoor public spaces such as arcades, inner courts, and roof gardens. Improvement of POPS in Korea will require that the same be done here.

It has been 25 years since introduction of the first POPS in Korea, but they do not reflect recent trends nor have any variation appeared. Therefore, the purpose of this study is to seek ways to improve the system for diversification of POPS and the quality of public spaces in downtown Seoul after reviewing their status and operating standards in district planning areas.

Improvement of the Current Evaluation System of Sustainability and Infrastructure for Citizens' Well-Being

On a regular basis, the level of infrastructure in every city is evaluated by the national ministry that manages land and transportation systems in Korea. However, it has come to the SI's attention that the condition of infrastructure in a megacity such as Seoul has not been fully examined. The study entitled, **Improvement of the Current Evaluation System of Sustainability and Infrastructure for Citizens' Well-Being** suggests expanding the role of the Seoul Metropolitan Government in the national effort to examine the level of infrastructure in urban areas.

Sun-Wung Kim, Jae-Seob Yang, Hee Jin Kim

Every year, the Korean Ministry of Land, Infrastructure and Transportation (MOLIT) evaluates 299 primary local governments in terms of infrastructure for citizens' well-being and its sustainability. However, the purpose of these evaluations is mostly to rank local governments and award prizes. Indeed, the roles of metropolitan governments such as Seoul are not fully appreciated, nor do the indicators to be evaluated reflect the characteristics of these large metropolitan areas, such as Seoul, which has about 10 million people. In addition, some indicators are not suitable for *Gu*-districts in Seoul as they are not considered primary local governments.

We propose that metropolitan governments, which are more knowledgeable about metropolitan areas, participate in the evaluation process. Metropolitan areas should be evaluated differently than small cities with populations only in the hundreds of thousands. We suggest several improvements to the evaluation process. When MOLIT begins the process, primary local governments need to submit indices to metropolitan governments. The metropolitan governments then submit the indices to MOLIT after review. MOLIT determines the ranking and awards the top performers. The results are shared with all levels of local government to support them in policy making. We also propose evaluation of urban master plans in terms of sustainability as an alternative to long-term evaluations.

A Study on the Actual Status and Improvement Plan of the Special Zone Policy in Seoul

In Seoul, special economic zones known as “Special Zones” have been designated to revitalize regional economy of specific areas. **A Study on the Actual Status and Improvement Plan of the Special Zone Policy in Seoul** is a comprehensive report that examines all the processes related to these Special Zones. It investigates issues regarding their designation, operation, and maintenance. The authors then provide policy recommendations on cooperation between the various stakeholders such as small businesses, the Seoul Metropolitan Government and the central government.

Seung-Hyun Min·Mook-Han Kim·Ji-Hye Yang·Hye-Jin Cho

This study covers the general situation of designated special zones nationwide and the 10 special zones designated and operated in Seoul. Of the special zones in Seoul, four were chosen for in-depth analysis, which focus primarily on promoting industry. The study looks at the overall condition of the special zone system, and includes the plans for promotion of regional special development zones, changes in local conditions after designation as special zones, operation of the zones, special regulations, degree of satisfaction with the special zone system, and so forth. The limitations and problems associated with the regional special development zones are identified through this analysis, and suggestions for improvement and policy are made.

Through a study of actual operation of the current special zones, details on limitations and problems are presented in three areas.

First, regarding designation and use of the special zones, there are three limitations: lack of coordination with high-level and related plans; absence of follow-up management of special regulations related to land use; and absence of exceptional adjustment of special regulations under the National Land Planning Act.

Second, regarding specialized businesses and operation of special zones, there are also three limitations: lack of diversity in effectiveness of the special regulations

and designation type; inconsistent financing; and the absence of continuous support for private enterprises.

Third, regarding maintenance and management of special zones and related participants, there are three problems: lack of communication between participants; problems in continuous operation of special regulations and management of related tasks; and limitations in evaluation and performance reporting.

Improvement is needed in each of these challenges and limitations in the mid- to long-term if the original purpose of efforts to promote regional competitiveness and regional economic revitalization are to be realized. Towards this end, this study makes several suggestions.

With respect to the first area mentioned above, it is necessary to designate special zones and strengthen post-management procedures. In detail, mandatory reviews are needed on consistency with upper and related plans and establishment of a consultation system; requirements need to be strengthened on post-surveillance and dismissal of special regulations on land use; additional procedures and special measures are needed on exceptions to regulations, deliberations and decisions under the National Land Planning Act; and special regulations on urban management need to be separated from exceptional regulations.

With respect to the second area, it is necessary to strengthen support for special zone operation and promotion of specialized projects. In detail, private proposals and diversification of types are needed to ensure the effectiveness of special exceptions; there needs to be diversification in related entities for continuous promotion of business and provision of financial resources; and support for private operators needs to be constantly improved.

With respect to the third area, it is necessary to maintain special zones continuously and strengthen the system for cooperation. In detail: systems for communication and cooperation between related participants need bolstering; a monitoring system needs to be set up to ensure continuous management of special regulations and special projects; and more attention given to professional reviews and support for evaluation and performance reporting.

Looking at the current situation in today's low-growth environment, it is expected that applications for designation of special zones will continue to increase not only in the Seoul metropolitan area but also across the country, as a way to activate local economies and revitalize declining cities. The following policy directions are suggested as ways to improve special zones:

First, the Small and Medium Business Administration (SMBA) and the related central administrative agencies should strengthen surveys on demand towards establishing policy directions in the future to continuously strengthen special regulations and identify the need for new ones.

Second, specialists in a variety of fields such as city planning, economics, and community are needed to establish a cooperative network system, and assist with establishment of a dedicated department in local governments to better provide consultation.

Third, the SMBA, ministries of the central government, and municipalities should coordinate with each other to find ways to provide financial support that varies by type and size of each special zone.

Fourth, at the central government level, a task force is needed that includes civil servants and experts to strategically elaborate and improve policies related to special zones.

In Seoul, continuous monitoring is necessary, as is research on the current special zones together with the Seoul Institute or *Gu*-district governments, and establishment of measures to promote activation of newly-designated regions and those where project performance has been insufficient.

Finally, towards designating, operating and managing special zones in Seoul and other metropolitan municipalities, a Regional Specialized Development Zone Activation Committee (tentative name) is needed in which experts, residents, members of the general public and other stakeholders participate.

Current Condition and Policy Direction for Low-Rise Residential Areas in Seoul

Although more than 50% of people in Seoul live in high-rise apartments, low-rise residential areas still exist. In the period of Korea's high economic growth, these low-rise residential areas were considered potential sites for redevelopment. Therefore, residential environments were neglected in terms of management due to an expectation that the area would be redeveloped in the near future. In the meantime, population density in such areas has been increasing without sufficient infrastructure, such as parking spaces, being provided. Consequently, the residential environments in low-rise residential areas have chronically degraded. **Current Condition and Policy Direction for Low-Rise Residential Areas in Seoul** categorizes low-rise areas into four different types depending on many criteria. Policy recommendations are then provided for each type of low-rise residential area in Seoul.

Da-Mi Maeng · Nam-Jong Jang · Ce-Na Baik

Low-rise residential areas scattered around Seoul are densely populated spaces with residential buildings of five floors or fewer. They cover 124.5km² of the city, accounting for 38.2% of all residential areas and consisting of approximately 337,000 low-rise buildings. By type of occupancy, 46% of the buildings are single-household and 54% multi-family households. These buildings are aging, with 32% over 30 years old.

During Seoul's high-growth period, density in low-rise residential areas increased. Regulations and standards for buildings and parking lots were eased to boost the supply of housing. This increasing household density due to the construction of new buildings led to a worsening living environment, with infrastructure such as roads, parking lots and open spaces unable to keep up with demand.

During this high-growth period, low-rise multi-family housing was gradually recognized as an affordable accommodation option. At the time, the only means of managing them was through redevelopment projects. The areas that were not redeveloped yet were regarded as potential targets for such projects. Management

of the low-rise residential areas was largely neglected due to the expectations for redevelopment. In addition, regulations for low-rise residential areas were sub-standard as they were alienated from policies for other residential areas.

As housing supply regulations were relaxed, low-rise residential living environments deteriorated from the continued densification and neglect of infrastructure. In this study, the areas are classified into four types, based on the need or urgency for public support, the possibility of self-management in housing, the form of residence, and physical conditions.

The first type is made up of residences constructed with little planning. On the whole, they are densely-placed old buildings on small, irregular-shaped parcels of land. The second type is similar to the first in terms of infrastructure and land. However, new construction is taking place, mainly on parcels with good road conditions. The third type is planned residential areas where old densely-populated spaces exist, but the infrastructure fails to meet the requirements of the increased density. The last type is planned development sites, where housing of different ages, sizes, and kinds are located, induced by the continuous development of infrastructure and parcel condition.

However, with changing socio-economic conditions such as low growth, population decline, societal aging, and the increasing number of single-person households, policy viewpoints also need to change. Low-rise residential areas are flexible spaces that can cope with diversified housing demands. In addition, intangible values such as history, location, and community in such areas make them some of Seoul's greatest attractions. Policy viewpoints must change in a variety of ways to preserve, manage, and maintain these values.

Recently, a variety of public projects have been pursued as alternatives to improve sought-after residential environments, but have taken place on only some low-rise residential areas. The quality of the housing and residential environment should be enhanced by incorporating the whole of such areas in main policy targets.

In order to improve the quality of low-rise residential areas, it is necessary to improve local management, based on space characteristics and types. A variety of

measures should be devised to manage or redevelop these neighborhoods, in accordance with these characteristics. The role of a neighborhood plan should be to function as the main framework for management of residential areas. In addition, upgrading the guidance level for quality of life in low-rise residential areas is necessary. Finally, administrators in the public sector should be able to provide consulting, coordination, management, and conflict mediation.



Analysis and Support Plans for Micro Enterprises in Urban Revitalization Areas

The Seoul Metropolitan Government has carried out urban regeneration programs on certain areas of critical importance in the city of Seoul. Changsin·Sungin area is one of these key areas that are going through the process of regeneration and revitalization. Traditionally, Changsin·Sungin has been populated by textile factories and small businesses supporting them, but this has been changing as local industry has declined. **Analysis and Support Plans for Micro Enterprises in Urban Revitalization Areas** analyzes Changsin·Sungin and uses it as a case study to draw policy suggestions for the urban regeneration program in Seoul. The report has a specific focus on revitalizing micro enterprises in the Changsin·Sungin area.

Nam-Jong Jang · Da-Mi Maeng · Yoo-Jin Kim · Jong-A Hwang

Changsin·Sungin, one of the leading urban regeneration areas, faces both opportunity to ‘vitalize regeneration’ according to public policy and crises such as rent hikes, eviction of native residents and poor micro enterprises. A comprehensive and multilateral analysis of the actual conditions of Changsin·Sungin must precede attempts to overcome the crisis of declining industry and protect poor micro enterprises under the public policy known as the Urban Regeneration Project. Actual conditions of the area and of micro enterprises should be analyzed. Then, on the basis of the resulting diagnosis, plans for protecting these enterprises in the process of the Urban Regeneration Project’s revitalization should be explored.

With this background and purpose, our study was carried out in several steps. First, we investigated the overall conditions and industrial structure of Changsin·Sungin. We also examined the current status and institutional limits of the area, reviewing laws and institutions related to supporting micro enterprises and public policies related to Urban Regeneration Project. Second, we investigated the actual conditions and cognition of micro enterprises regarding the Urban Regeneration Project in Changsin·Sungin in depth. We looked into the environment around micro enterprises and the expectations of the public through in-depth

interviews of micro enterprise owners in the area. Third, we identified implications regarding the role of the public sector in the Urban Regeneration Project from case studies in manufacturing and small business in the United States, the United Kingdom, and France. Finally, we examined the comprehensive awareness and characteristics of small businesses and micro enterprises through the above process and produced plans to better protect and support such enterprises on the basis of the identity and distinct characteristics of Changsin·Sungin.



Housing Support Centre's Evaluation System for Advances in the Quality of its Service and Consistency in Service

The Seoul Metropolitan Government established Housing Support Centers to deal with housing issues for low-income families and to distribute rental subsidies. There are ten such Centers currently in operation in Seoul. The report, **Housing Support Centre's Evaluation System for Advances in the Quality of its Service and Consistency in Service**, develops a scheme to evaluate the quality of services provided by these Housing Support Centers, which is necessary to improve their services in the long run. The study examines the extent of electronic data collection, the number of staff, and the degree of private-public partnerships, among other factors.

Won-Seok Nam · Su-Kyoung Kim · Ce-Na Baik

Since 2012, the Seoul Metropolitan Government has allocated funds from its budget to 10 Housing Support Centers. These Centers assess housing issues for low-income households and offer rental subsidies to those in need. Now that the central government and the Seoul Housing & Communities Corporation (SH Corporation) are participating in their management, they expect to increase its responsibilities and activities. Towards this end, all Housing Support Centers need to improve quality of service and their abilities to provide consulting. This paper describes the system for evaluating Housing Support Centers.

The system includes evaluation categories, rating scales, processes, and methods for use of assessment results. First, there are 34 evaluation categories based on input, activities, output, and outcomes. Centers are evaluated in each category using a 4-point rating scale of Poor, Fair, Average, and Good. Professional evaluation and review of the outcomes are preceded by self-evaluations of each Center using these factors and rating scale, after which the evaluators scrutinize the documentation which can confirm the results of self-evaluation. Finally, the evaluation team pinpoints the problems identified at each Center and offers them opportunity to assess the issues.

Using the above process, we evaluated the 10 current Housing Support Centers in Seoul and found that the results varied by Center. For this reason, the evaluation team should propose how each Center can maintain consistency in service quality.

Lastly, this paper recommends 7 essential factors to continuing application of the evaluation system: continuous improvements to the system, guidelines for Housing Support Center activities, development of a professional electronic data system, construction of a website, increasing the number of centers, hiring more staff, and building cooperative public-private partnerships. These factors will help the Centers better fulfill their mandate in the future.



Improvement of Building Use Management Policy in the *Hanok* Conservation Areas: Focusing on the *Hanoks* inside of the Seoul Wall

A Korean traditional house is called “*Hanok*”. In Seoul, there are a few districts in which *Hanok* are well preserved such as Bukchon (meaning “North Village”). While the Seoul Metropolitan Government has established a *Hanok* Conservation Policy that is a set of programs to preserve these houses, it is not without its shortcomings. For instance, the policy focuses heavily on the physical aspects of *Hanok*, while the quality of the surrounding cultural environment has been largely disregarded. **Improvement of Building Use Management Policy in Hanok Conservation Areas** reviews the strengths and drawbacks of the current *Hanok* Conservation Policy, through interviews with residents, members of the civil service and *Hanok* experts. Policy recommendations are also offered for the districts designated as *Hanok* Conservation Areas.

Hyun-Suk Min

After the success of the Bukchon Project, a number of *Hanok* have been physically revived and are considered environmentally-friendly living spaces for the future. Such changes have drawn the attention of the public to the *Hanok* Conservation Policy in Seoul, which has largely developed in three stages: (i) *Hanok* Conservation Policy in Bukchon (2000~2008), (ii) Policy Expansion out of Bukchon (2009~2015), and (iii) *Hanok* Conservation as a Living Culture (2015~Present). *Hanok* Conservation Policy still deals with physical improvement of *Hanok*. Although it has led to the improvement of settlement environments and the restoration of the unique traditional landscape in *Hanok* Conservation Areas, the policy has been unable to stop the undermining or even disappearance of the cultural environment intrinsic to these Areas through drastic gentrification. Particularly for Insa-*dong*, Bukchon and Seochon, as a growing number of people wanting to experience their own traditional landscapes and cultural environments visit and the commercial supremacy of these Areas increases, incredible amounts of capital are flowing into these neighborhoods, accompanied by significantly increasing rental fees.

Cultural Protection Areas were designated in an effort to protect and foster businesses capable of forming a cultural environment intrinsic to *Hanok* Conservation Areas. In this connection, facilities that may undermine district environments are prohibited under the District Unit Plan. In spite of these efforts, critical concerns have been raised over the phenomenon of rapid building use changes in these Areas. A flurry of facilities not even slightly related to the *Hanok* tradition have also popped up, as shown by the chain of cosmetic shops in *Insa-dong*, the large number of cafés in Bukchon and the franchise stores in Seochon.

In this study, *Hanok* Conservation Areas refer to “the areas that the mayor of Seoul has designated and announced—after consulting with the Seoul *Hanok* Conservation Committee—as districts in which *Hanok* need to be conserved or promoted” as stipulated in 「Seoul City *Hanok* Preservation and Promotion Ordinance」. In other words, *Hanok* Conservation Areas are districts for which the Seoul Metropolitan Government (SMG) has expressed its desire to conserve *Hanok*; therefore, it may be safely said that the *Hanok* Conservation Policy in Seoul kicked off with designation of these *Hanok* Conservation Areas.

To find out how to manage the rapid building use changes in the *Hanok* Conservation Areas inside the Seoul Wall, first, the authors explored the problematic points of the current urban planning system, examining it for consistency in planning and problems with its content, focusing on the District Unit Plan. They also took a close look at the limitations in the process of implementing the District Unit Plan, based on the violations identified through investigation of the current building use conditions. Based on the problems in drawing up the urban management plans and the limitations in carrying out the urban planning system, this study suggests administrative guidelines for the SMG to protect the consistency and correct the shortcoming of the District Unit Plan.

At the same time, the drawbacks of the *Hanok* Conservation Policy in terms of managing building use in *Hanok* Conservation Areas were also looked into through

interviews of residents, civil servants in charge and experts on the *Hanok* Conservation Policy in Seoul. Then, using these interviews as reference, suggestions are laid out towards improving management of building use in these districts.

Based on a literature review of previous studies, analysis of the current urban management planning system, investigations into current building use and interviews with persons concerned, the following suggestions were offered as solutions to improving the current *Hanok* Conservation Policy and manage building use in *Hanok* Conservation Areas.

- (i) Supplement the current urban management planning systems
 - designate areas heavily affected by rapid gentrification as (tentatively named) Cultural Environment Protection Districts, where all building use activities must obtain permits
 - strengthen administrative cooperation between relevant departments to manage negative building use changes beforehand
 - create flexibility in operation of the current Urban and Architectural Deliberation Committee to eliminate rigidity in building use management plans
 - reinforce the current construction permit system to prohibit unauthorized building use changes
 - improve the current *Hanok* Preservation and Promotion Program to step up positive building use changes
- (ii) Correct the current urban management plans
 - adjust the purpose of the Management Plan for Cultural Protection Areas to maintain consistency with the District Unit Plan
 - change the building use management unit from land parcel to block unit in an effort to reduce conflict between residential and commercial building use activities
 - materialize standards for designated building use activities to improve efficiency of the District Unit Plan

- (iii) Regularly investigate current building use conditions to strengthen the effectiveness of *Hanok* Conservation Policy in managing building use in *Hanok* Conservation Areas
- (iv) Change the direction of current urban management policy towards improvement of residential living environments
 - introduce a certification system to protect small stores that support the lives of residents in *Hanok* Conservation Areas
 - operate resident amenities in the co-op
 - transform public *Hanok* into residential facilities and assign management to resident organizations
- (v) Improve the cultural environment in *Hanok* Conservation Areas
 - support traditional culture businesses and strengthen assistance for them
 - improve service quality and reduce management budget by jointly operating *Hanok* experience facilities, known as “*Hanok* guesthouses”
- (vi) Create a residents autonomous management system aimed at building use in *Hanok* Conservation Areas

Affordable Rented Housing Strategies in Seoul

Throughout the 1990s and 2000s, new housing was made available for citizens. Nonetheless, housing prices have been going up to the point where it is difficult to find viable affordable housing for the average person. The focus of housing policy in the Seoul Metropolitan Government has been on maintaining affordability of rental housing. The report, **Affordable Rented Housing Strategies in Seoul**, reviews related policies in countries such as the United Kingdom, Australia, and the United States, then goes on to suggest using tax incentives and a range of other strategies to provide affordable housing. Other interesting ideas are proposed such as an intergenerational housing approach, which encourages older house owners to share their dwellings with young adults.

Eun-Cheol Park · Won-Seok Nam · Su-Kyoung Kim · Geun-Sang Oh

The housing shortage has been resolved, but a new housing problem has recently appeared due to a serious crisis in housing affordability

Seoul has seen a 2.3 times increase in its housing stock between 1990 and 2015, and the proportion of dwellings to households is estimated to be over 100%. Because of the continuous housing supply, there is now little possibility that the soaring prices are a result of a housing shortage. However, the Price-to-Income Ratio (PIR) is a serious 11.2 in Seoul, which is higher than in the capitals of other countries. Moreover, the Rent-to-Income Ratio (RIR) has continued to increase due both to higher monthly rent contracts and a decrease in Jeonse leases. What is especially noteworthy is that soaring rents are expected to be the reason for the lack of affordable and quality housing. In response, the Seoul Metropolitan Government (SMG) should increasingly focus on price affordability for tenants of private rental housing.

Working towards ensuring an affordable housing supply through public-private partnership is a global trend

Towards making more affordable housing available, the United Kingdom, Australia, and the United States have offered developers tax incentives, subsidies, and warrant loans. In exchange, each government limits housing rental prices. Additionally, the city governments of New York and London, whose housing markets are known for their notoriously high rental prices, have extra programs to maintain housing affordability.

According to these examples, both rental income taxes and tax credits are strong incentives to keeping housing more affordable. In this sense, this study suggests that the SMG consider a diversity of ways to potentially support housing providers. These include providing tax credit liquid bonds (for use in a long-term, tradable bond market) issued either by financial intermediaries or by syndicators.

Seoul needs a revised housing policy in response to the nation's low birth rate and aging population during the contemporary environment of slow economic growth

Housing welfare policy should be expanded and strengthened to help more young adults and low-income families. The SMG needs to make available increasingly affordable and quality housing, before monthly rent contracts are signed and become more widespread in the private rental housing market. It also needs to develop initiatives to improve housing conditions. Moreover, an intergenerational approach between young adults and older people is necessary. To be specific, the government can offer older landlords some incentives such as lower taxes and encourage them to lease their housing to young adults at more affordable prices. This will contribute to an effective and fair housing policy.

Policy implications in order to provide affordable rented housing

High-density housing development close to metro stations is necessary to provide affordable housing for potential renters earning low incomes. Additionally, the SMG can offer landlords a subsidy for housing extensions and renovation.

Public housing and rent-assistance programs should also be improved in a way that supports social housing and tax-incentivized housing through public-private partnership.

Intergenerational housing policy will require that government supports landlords to keep their homes in good condition through renovation subsidies for all types of housing units. This should include flexible floor plans which can encourage owners of large units to subdivide them into quarters for several different households.

Housing financial support should increasingly focus on both first-time home buyers and affordable housing providers.

Lastly, real estate tax reform should be revised to include rental income tax incentives to facilitate more affordable housing. In addition, registration of rental housing must be mandatory for all landlords, and then initial rental rates and later increases regulated.

A Study on Improvement Strategies for Seoul Inter-Regional Cultural Exchange and Cooperative Projects for Mutual Regional Development

Seoul is the capital of South Korea and the wealthiest, most developed city in the nation. The Seoul Metropolitan Government has engaged in cultural exchanges and initiated collaborative projects with other regions, as it is important for the city to reach out to other areas to reduce the polarization between the most developed urban area and Korea's rural communities. After reviewing outcomes of past outreach efforts, the report, **A Study on Improvement Strategies for Seoul Inter-Regional Cultural Exchange and Cooperative Projects for Mutual Regional Development**, proposes basic principles to improve the current regional cooperative policy and programs from the Seoul Metropolitan Government.

Hee-Yun Jung · Won-Sill Hwang

In 2016, Seoul announced its “Master Plan for Mutually Beneficial Inter-Regional Development.” This plan suggests five policy areas and 19 regional cooperative projects. Through the plan, the Seoul Metropolitan Government (SMG) also expressed its desire for a strong policy promoting inter-regional cultural exchanges and cooperative projects to reduce the deepening polarization between urban and rural areas of Korea.

This study suggests action plans for more effective and efficient policy implementation for these cooperative projects. To this end, we first extensively reviewed the current situation and trends of inter-regional cultural exchanges and cooperative projects in Seoul. Secondly, we analyzed current best practices both domestically and abroad. Finally, we conducted a survey on regional demand for cultural exchanges and cooperative projects between Seoul and regional governments aimed at civil servants participating in regional cooperative projects on a variety of topics.

This study proposes a basic direction for regional cooperative policy along four guiding principles: (i) developing regional cooperative projects based on real demand in the beneficiary region to ensure project sustainability; (ii) approaching

projects with more consideration of long-term benefits rather than only short-term output; (iii) using an integrated policy approach to maximize synergy; and (iv) progressively enhancing public-private partnerships.

Major policy recommendations include: obtaining demand-driven policy proposals from beneficiary regions; forming an integrated policy to maximize synergy between individual projects; developing the most effective practice- and learning-oriented workshops; establishing an institutional framework for private-public partnerships; and establishing social enterprise-based Regional Promotion Centers.



02 Transportation Planning

A Study on Application of Big Data for Transportation Policy Development and Improvement

These days, big data analysis in any field has been in the spotlight. Transportation planning is no exception, although only baby steps have been taken so far in utilizing big data in this area. **A Study on Application of Big Data for Transportation Policy Development and Improvement** provides a roadmap for using big data in analysis of various transportation phenomena. This report proposes its application into policy analyses related to the safety and operation of public transit. The issue is not just with data collection and analysis: amendments to related law are necessary before such data stored by the private sector can be shared with the public sector.

Gyeong-sang Yoo·Chang Yi·Gyu-geun Yoon

Big data is defined as datasets so voluminous that researchers cannot collect, store, manage, or analyze them with normal database software. Because of the large number of transportation system users, the potential benefits of collecting and distributing real-time transportation data, and increasing demand for processing and analysis of new kinds of data through cutting-edge technology such as autonomous vehicles, big data analysis is expected to bring positive changes to the transportation sector.

In this study, we investigate transportation big data and examine its applicability to developing and improving transportation policies and services. Moreover, we suggest new policies and services that can be derived from our study and categorize them into transportation planning, safety, public transportation, and operation. To promote future research, we describe the mechanism of each policy and service at a conceptual level.

Applying big data to transportation systems will reduce the cost and time involved in collecting such data in other ways and benefit society. To overcome the

existing barriers to big data analysis we suggest (i) establishing strategic partnerships with organizations that retain this data; (ii) proposing to the Korea's central government and the National Assembly amendments to current laws; and (iii) systemically managing data presently owned and sharing data with research groups.



Estimation of Operation Capacity on the Exclusive Median Bus Lane

In 2004, the Exclusive Median Bus Lanes (EMBL) were installed in Seoul, making a Bus Rapid Transit (BRT) system possible. Guaranteeing speedy and reliable trips, EMBL give buses a competitive edge over private vehicles. Together with the subway system, the BRT network is the backbone of transportation in Seoul. Research is needed to improve the BRT operations, however. The main issue covered in **Estimation of Operation Capacity on the Exclusive Median Bus Lane** is that the EMBL will become more and more congested due to increased traffic in the future. The first priority is to provide an accurate estimate of operational capacity. In the past, this estimate has been done without considering traffic congestion or passenger service levels. Using a sophisticated engineering method, case studies in this report demonstrate ways to measure the operational capacity of a given EMBL. Detailed analysis is also introduced in “The Seoul Institute Annual Research Digest 2017.”

Wonho Kim·Seungjun Kim·Taejung Kim

Since the first exclusive median bus lane (EMBL) was introduced in 1996, they have expanded to 120km in length on 12 arterial roads. Along with the urban railway, it serves as the backbone of public transportation in Seoul and is responsible for meeting a large part of the demand for wide-area transportation. However, continuous urbanization and construction of satellite cities require the addition of broad-area bus lines, causing traffic congestion in some sections in the EMBL. Urban sprawl will continue in the future and it is expected that the present bottleneck will extend to all EMBLs. To recover the inherent functions of the EMBL, operations will need to be improved, as well as physical improvements.

Improvement of EMBL management and operation requires an estimation of operating capacity. The existing method, used as a guideline for design of the EMBL, has a limitation in that it cannot consider the level of congestion and passenger service levels as the capacity obtained is the maximum throughput of buses during a given time. The maximum operating capacity that provides the level of service which passengers can tolerate needs to be estimated. And the chosen method should be able to reflect the characteristics of the EMBL in Seoul, which

differs from those found in other countries. The capacity estimation method proposed in this study considers the service level expected by users while maintaining functionality of the EMBL.

The bus arrival distribution at EMBL stops is determined by the traffic signal at the upstream intersection. Buses that pass through the stop line during a green signal arrive at a bus stop in a platoon and depart from the bus stop before the next bus platoon arrives. The concept of signal failure at the signalized intersection is introduced to define a service failure (SF) situation where none of the buses can complete the service at a bus stop during one signal cycle. The methodology and results are presented below.

Through field surveys and bus management system (BMS) data on most congested bus stops, bus behaviors, the number of bus arrivals, and bus queue lengths were investigated when SF occurred, with findings utilized to estimate the maximum operating capacity for each stop to avoid SF. The suggested operating capacity was estimated at about 30% lower than recommended by the existing estimation method. Comparing the results of the existing estimation method with those collected from the field reveals that the existing method tends to overestimate maximum operating capacity. The capacity presented in this study is one that prioritizes being tolerable for the user rather than for the operator.

The demand for EMBL is expected to increase due to rising demands for wide-area transportation in the future. There is therefore an urgent need to establish an operating system that includes monitoring of the main function of EMBL and maintenance of an appropriate level of service, and the results presented in this study will be useful as basic data for establishing a better management plan.

Establishment of Standards for Constructing a Pedestrian Wayfinding System Considering the Public Interest with regard to Large Complex Facilities

Beginning in the 1980s, large multi-purpose facilities have sprung up in major commercial areas in Seoul. The average person tends to get lost within these malls because the wayfinding system is designed in a way to encourage shopping, resulting in confusion for people simply passing through. Furthermore, pedestrians have difficulty in finding facilities such as subway stations, restrooms, and elevators. Since these facilities serve important functions for the general public, the public sector has justification to set guidelines for wayfinding systems in these large commercial spaces. The report, **Establishment of Standards for Constructing a Pedestrian Wayfinding System Considering the Public Interest with regard to Large Complex Facilities**, provides pedestrian wayfinding standards for large-scale commercial complexes in this area. Six principles when designing wayfinding systems are proposed.

Sin-Hae Lee · Jin-Hak Lee

As the functions of a city increase in complexity and variation, the activities of its citizens also increasingly diversify. Due to these diversified and widening activities, there is a need for increasingly efficient transportation. Therefore, facilities that minimize movement and maximize activities are emerging one after another. In Seoul, large facilities began to spring up with Lotte World in Jamsil at the end of the 1980s. Between the end of the 1990s and the early 2000s, facilities such as Migliore, COEX, and Central City were built. The iPark Mall, Bitplex, and Times Square came in the late 2000s, and after 2010 the Kimpo Airport Lotte Mall, the Yeouido IFC mall, and the second Lotte World Mall. By 2018, seven more large-scale complex projects will be underway in the Seoul metropolitan area.

These large complexes are directly or indirectly connected to subway stations. Approximately 180,000 passengers commute daily to Jamsil station, 120,000 to Samsung station, and 170,000 to Express Bus Terminal station. These are considered “floating population” assembly areas.

However, such large facilities are designed mainly for commercial purposes to create a “chain reaction of shopping” with their complex routes, causing serious inconvenience to pedestrians who have to go through such complicated mazes. This is also reflected in the findings of the survey conducted as part of this study, where the respondents selected the disadvantages of these areas as being “difficult to navigate” and equipped with “poor signage”. Moreover, commercial facilities put a low priority on frequently-used public features, such as subway stations, restrooms, and vertical elevating facilities such as stairs, elevators, and escalators. As a result, problems arise, such as signage that is poorly visible or non-distinct, and displays that cannot be seen except up close. Standards are needed as to what guiding elements are essential and ways to offer effective guidance in large complexes.

This study limits its scope of pedestrian wayfinding standards to large-scale complexes. First, in order to examine the criteria for these large-scale facilities, we comprehensively reviewed the following standards: the Distribution Industry Development Act, the Scope of Target Businesses for Traffic Impact Assessment under the Urban Traffic Improvement Promotion Act, and the Seoul City Criteria for Deliberation on Buildings. We restricted the scope to complexes with a total floor area of over 100,000m², because there were too many eligible facilities for assessment for this study according to the standard followed by the Distribution Industry Development Act of 3,000m². For its part, the standard in the Scope of Target Businesses for Traffic Impact Assessment for determination of a large facility was too complex.

There are 23 commercial facilities in Seoul with a total floor area of over 100,000 m², including two culture and assembly facilities, two transportation facilities, four medical facilities, and three accommodation facilities. It is at least necessary to install effective wayfinding systems in these large-scale complexes as delineated in the Seoul City Criteria for Deliberation on Buildings.

In addition, those facilities needing pedestrian wayfinding systems can be put into two categories: those with both public and private spaces combined and those made up of multiple public spaces. In private facilities, a wayfinding system

requirement cannot be mandatory, since such facilities may serve unique purposes. Therefore, a wayfinding system was merely recommended for facilities combining multiple private spaces.

In California's Bay Area Rapid Transit (BART) system, related laws and policies are first examined to determine pedestrian wayfinding elements. Similarly, in this study, we examined the related laws of Korea, such as the Building Act, the Rules on Standards for Fire Safety and Evacuation of Buildings under the Enforcement Decree to the Building Act, and the Special Act on Management of Disasters in Super High-Rise Buildings and Complex Buildings with Underground Connections. These laws specify which public facilities require guidance for disaster management, such as staircases, elevators, and emergency exits.

Additionally, a survey conducted in this study showed that actual users of large complexes regard as important elements for major public facilities the subway connection passages, toilets, elevators, escalators, and emergency exits. Therefore, components related to safety and emergency evacuation are required in a wayfinding system, such as a vertical movement facility.

Six wayfinding principles for pedestrians are suggested by reviewing the BART railway system, a library signage design program, and guidelines for the production, installation, and management of road signs under the Road Act.

Principle One. The relevant laws and regulations must be met when creating a wayfinding system. In other words, the safety, mobility, and convenience of pedestrians are essential factors for high-demand, large-scale facilities that hold large floating populations.

Principle Two. The wayfinding system must be installed in a way that suits a given building. If wayfinding systems are applied uniformly to shopping malls, subway stations, and libraries, or if peripheral advertisements and building designs are not considered, this can reduce the wayfinding system's visibility and agreeability. Hence, it must harmonize with the facility in terms of design to maximize conspicuousness and familiarity.

Principle Three. The wayfinding system must be intuitive and simple, without providing too many details. Most pedestrians identify the path from their current location to their destination through signage in an ambulating fashion. However, very detailed or complex information may create confusion and reduce reliability. Therefore, information must be kept simple to aid intuitive understanding and to enable arrival at a destination easily and promptly.

Principle Four. The space hierarchy must be selected according to facility user needs with priority given to public elements like safety and emergency transport. The wayfinding system must also provide maximally accessible information about the most important paths. It is appropriate to focus on a space hierarchy, rather than to deliver information about all directions. Use of a highly-quantified and accessible method for route selection is reasonable. The following figure shows an example from COEX, using a space analysis program called Space Syntax.

Principle Five. Once the space hierarchy for guidance and the most accessible paths are determined, the information should be provided continuously and consistently. In other words, it is necessary to apply uniform notations for the essential wayfinding elements, such as subway connection passages and vertically-elevated facilities. Especially for large complexes, inconsistent guidance presentations will likely create confusion for pedestrians.

Principle Six. The wayfinding system must be categorized by action decision points, such as a spot or location at which a new path can be chosen or a previous path continued. The choices within a facility are the points among multiple candidates for a path to reach a destination; otherwise, only one path is available with no alternatives. Therefore, at the points of path selection, detailed information can aid pedestrians in understanding the path to the destination by themselves. However, at sections with only one available path, intricate information hinders mobility, since the pedestrians focus more on peripheral facilities than the relevant signage. Therefore, a wayfinding system must differentiate its information delivery with regard to the points where decisions for actions are made.

The Building Ordinance of Seoul defines the criteria for deliberation by the City Building Committee and in Clause 1-1 of Article 7, the reviewed subject is the construction of buildings with multiple functions. Large-scale complexes for which this study suggests wayfinding system requirements must be reviewed by the Seoul Building Committee. This committee has also written and managed the detailed clauses within the Seoul City Criteria for Deliberation on Buildings that will, if updated, make implementation of this study's wayfinding system - which considers building interiors - successful.

Specifically, the information on the wayfinding system in chapter 3, "Publicity and Community" of the Seoul City Criteria for Deliberation on Buildings should be reinforced. Currently, this chapter consists of 14 articles, but an article 15 needs to be created, entitled along the lines of "Wayfinding system for large-scale complexes", increasing the authority of the criteria as well as defining the constructions requiring a pedestrian wayfinding system and the related principles.



Analysis of Behavior Change in Passenger Car Users due to Road Space Reorganization in the CBD of Seoul

Throughout the 2000s, Seoul has been transforming itself into a walking-friendly city. Many schemes exist that pursue the goal of creating a pedestrian-oriented environment, but reorganizing arterial road space, including a method known as a “road-diet” is the most common way to do so. It is natural to want to identify the impact of such a method on people’s travel behavior in different physical environments that are likely to be more inconvenient for driving. With a road-diet on a major transportation arterial road, would people drive less and take public transit more often? How many people would change their main travel modes from driving to transit or walking after the built environment becomes more pedestrian-friendly? These are the questions that **Analysis of Behavior Change in Passenger Car Users due to Road Space Reorganization in the CBD of Seoul**, attempts to answer. This study develops a quantitative analytical method to estimate the impact of spatial reorganization on travel behavior.

Gyeong-sang Yoo · Seung-jun Kim · Gyu-geun Yoon

In the 2000s, the paradigm of transportation policy shifted from car-oriented to pedestrian- and environmentally-friendly throughout the world. Seoul also promoted people-oriented policies through the declaration of itself as a “Walking Friendly City” in 2013 and “Walkable City, Seoul” in 2015.

Seoul is especially encouraging arterial road space reorganization projects in the CBD to improve the walking environment and air quality and reduce the noise by suppressing passenger vehicle traffic. However, these projects can result in complaints from drivers and other stakeholders such as nearby merchants. In light of this, it is very important to persuade and create consensus among stakeholders by identifying the benefits of reducing passenger vehicle traffic through such projects.

In this study, we developed a model to estimate behavioral changes in passenger car users due to road space reorganization and to identify the main factors affecting these changes. We also used the model to estimate the effect of reducing passenger car traffic due to this reorganization of arterial road space in the CBD.

The main factors influencing the behavior of passenger car users were gender, purpose of travel, travel time in the CBD, relative perception of convenience related to use of a passenger vehicle compared to public transportation, and perception of the convenience of parking. Perceptions of convenience with use of a passenger vehicle received specific focus as they were deemed to have a much greater influence on behavior of passenger car users than the perception of parking convenience.

The less convenient it was to use a passenger vehicle, the greater the probability that the driver would switch to public transportation than that the trip would be abandoned or the destination changed. On the other hand, the less convenient parking became, the greater the probability the driver would change destination or abandon the trip itself than switch to public transportation.

Assuming that travel time within the CBD increases by 50% due to road space reorganization, analysis showed that daily passenger car trips to the CBD reduced by a maximum 23.8%. This decrease in passenger car trips is expected to lead to a 13.2% reduction in daily traffic volume in the CBD, which will contribute to improving the urban environment, including improving air quality and reducing noise and accidents.

It is expected that road space reorganization such as “road diets” will increase road travel time and reduce passenger car traffic, as well as improve walking environment and air quality, reduce noise, and increase floating population. However, improvement in public transportation is desirable during project implementation because there is a possibility that the decrease in total traffic volume in the CBD will result in a downturn of the area’s economy and opposition from stakeholders such as local residents and local merchants.

Improvement Strategies for Transfer Walking Environment for Urban Rail-Arterial Bus System

In promoting a pedestrian-friendly environment, one urban element that needs to be improved is the connection between bus and subway: existing transfer routes present a rather poor physical environment. The study, **Improvement Strategies for Transfer Walking Environment for Urban Rail-Arterial Bus System**, involved examining 77 transfer sections connecting bus stops on exclusive median bus lanes and nearby subway stations. Policy recommendations are offered, including for the installation of new pedestrian facilities.

Seong-il Shin · Kwanghoon Lee

The arterial public transit system in Seoul can be classified largely into arterial bus and urban rail systems. However, connection between the two systems has not been well implemented. In order to increase public transportation demand, an effective connection between policy and transfer systems is required.

This study analyzes the influencing factors in the transfer walking environments between urban rail and arterial bus stops and derives implications for making such environments safer and more convenient.

In our analysis of transfer walking environments, 77 sections connecting urban rail stops to bus stops located on exclusive median bus lanes were selected and analyzed in terms of transfer time, distance and transfer rate, etc. The reasons for poor transfer connection between the two systems come out due to the feeling of long distance and lengthy time required to cross the spatial separation between.

Effective improvement seems to depend on how the 5 minutes of walking time can be overcome, as current transfer walking times between urban rail stops and stops on exclusive median bus lanes mostly exceed this time.

We created 5 categories for transfer sections - A, B, C, D, E - based on the distance between stops on the two systems and propose possible strategies for improvement of each category.

We also propose various pedestrian facilities such as mid and light-scaled infrastructure and show how these can be effectively installed and operated to improve walking environment. The importance of integrated design of the two systems is emphasized and discussed in terms of political and institutional standards.



Effectiveness of Taxi App Operational Patterns and Management of Taxi Call Industry

The development of IT (Information Technology) has tremendous impact on every aspect of human life in the 21st century. The taxi industry is one arena where IT application has completely shifted the way the market works. People are increasingly using mobile applications to catch a cab. However, members of the civil service working for the Seoul Metropolitan Government have not had sufficient information to identify either the problems or the potential of these widespread mobile taxi applications. In the study, **Effectiveness of Taxi App Operational Patterns and Management of Taxi Call Industry**, researchers surveyed taxi users and drivers to understand the taxi app phenomenon. It appears that these apps provide better business opportunities for taxi operators, while also creating moral hazards. For instance, some taxi drivers prefer long-distance trips and refuse to serve people going only short distances. The outcomes of this research provide an important policy agenda as to ways to improve taxi services for the general public.

Kijung Ahn · Sangmi Jeong

Taxi mobile applications have a significant effect on the call taxi industry in Seoul. This innovation began with an app named “EZ Taxi” in 2012 with a variety of other mobile platforms developed since then. These apps provide a number of benefits over conventional call taxi services: (i) greater convenience, (ii) no extra cost, and (iii) easy access to taxi driver profiles. Taxi drivers also prefer the apps as they enable finding customers easily. These advantages increase the popularity of taxi apps, changing taxi operational patterns.

To explore these changing patterns, we traced taxi trip information from company and privately-owned taxis, using taxi trip logs from driver smart-phone applications. Our findings indicate that company taxis used the taxi app for 3.7 trips per day, while privately-owned taxi drivers used the app for 4.2 trips per day. This is a meaningful increase over conventional call services (one call per day on average). Taxi apps also contribute to improving business for taxis, as drivers can expect an increase in travel distance and revenue. Indeed, the average distance and revenue of each trip has risen over 2015. Drivers are also able to operate more

efficiently by picking up long-distance passengers. Analysis of trip profiles showed that privately-owned taxi drivers were more likely to select long distance trips than company taxi drivers. In addition, the time occupancy rate, calculated by dividing the total passenger time by the total time, increased significantly from 2015. Distance-based occupancy rate also increased meaningfully in the same period.

The overall efficiency of taxi services did not improve much. A field survey was conducted to investigate both driver and passenger satisfaction. Drivers were very satisfied with the “Convenience of choosing passengers” while passengers appreciated the convenient app interface. However, taxi drivers complained about “No shows” or “Cancelled calls without prior notification”. On the other hand, some passengers said they were unreasonably refused by drivers. This inconvenience can be regarded as one of the negative aspects of taxi apps, mainly because taxi drivers have tended to prefer long-distance passengers. The survey showed that some taxi drivers manipulated app records to get another passenger even before the current passenger arrived at his destination. This can distort taxi operational information and compromise accurate analysis.

Taxi apps contribute to reducing passenger wait time, increasing taxi driver income, and improving service efficiency. These positive aspects are accompanied by some drawbacks such as drivers refusing short-distance trip requests and customers frequently cancelling without agreement with the driver. Since taxi services are closely related to public convenience and social benefit, the Seoul Metropolitan Government (SMG) needs to deal carefully with these problems. In addition, app taxi data should be shared with the SMG. The authorities collect all taxi trip information for public safety and operations through the Seoul Taxi Information System (STIS). However, the apps do not provide trip information to STIS, which makes it difficult for the authorities to prohibit and monitor illegal practices within the taxi business. To improve services, the SMG should be able to manage the growing taxi app market through establishment of guidelines that restrict illegal business practices.

Evaluation of Car Mileage Program and Establishment of Policy Direction

There are a range of travel demand management programs in Seoul. One is the Car Mileage Program, which involves the voluntary participation of interested citizens and civil servants. Participants choose not to drive for one day every week, a “Weekly No Driving Day”. The authors of **Evaluation of Car Mileage Program and Establishment of Policy Direction** estimated its impact in reality. It appears that the total distance driven by residents in Seoul is reduced by 0.03% after implementation of the Car Mileage Program. While this impact seems rather insignificant, it should not be understood that the program has failed. This report suggests a variety of measures to increase the number of participants.

Joonho Ko · Hyeongyun Ki

In order to resolve the problems of the “Weekly No Driving Day” program, the Seoul Metropolitan Government (SMG) reviewed a car mileage program which provides incentives for those who drive less, and for which a trial project was carried out for six months beginning in October 2014.

Vehicles participating in the trial project numbered 18,217, with 30.1% of them receiving incentives for decreasing their travel distance by more than 5%. However, 20.7% of participants did not change their use or drove more than previously and therefore were unable to receive any incentive, while 30.1% did not submit the required mileage document. The average travel distance of participants in the car mileage program decreased by 15.1%, from 28.8km per day to 24.4km per day. If the car mileage program takes root, the total distance covered by drivers in Seoul is expected to decrease by 0.03% and in turn, result in a 1,470ton decrease in greenhouse gas emissions every year.

Most participants in the car mileage program were male drivers in their 40s and 50s. Those participants who responded that the main purpose for using their cars was for leisure or entertainment tended to drive less, but those whose main purpose was for commuting did not. Also, participants with higher incomes tended not to decrease their distance traveled while participants with older vehicles drove fewer kilometers, accordingly receiving incentives.

Only 0.8% of drivers in Seoul are participating in the car mileage program. Considering this, the short-term goal is to increase participation to 10,000 drivers. For this to happen, many measures to encourage greater participation have been sought, including advertising and providing additional incentives for not driving old diesel vehicles and flexible incentives depending on the period of participation. Furthermore, additional trial projects are needed to develop a database and enable creation of more comprehensive policy.



03 Environmental Planning

A Plan for Building Data for Earthquake Risk Assessment of Constructions in Seoul

There has been concern that Seoul is not free from earthquake risk. While the Seoul Metropolitan Government is aware of the types of buildings that may not withstand earthquakes, it does not have sufficient information on the various areas of the city to assess comprehensive vulnerability. “Geoinformation”, if available, can indicate the magnitude of earthquake risk based on a variety of factors such as the characteristics of ground soil. **A Plan for Building Data for Earthquake Risk Assessment of Constructions in Seoul** draws a roadmap for building a geoinformation data system that covers the entire city. This information system will be the basis for mandating earthquake-resistant designs for buildings in vulnerable areas.

Yoon-Shin Bae · Jong-Seok Won · Han-Na Park

Since an earthquake in Gyeong-Ju City in September 2016, concern has been growing that Korea is not prepared for earthquakes. Seoul is close to a fault line known as “Chugaryung”, which means that Seoul needs to prepare an earthquake response system. However, the city does not have enough related risk data, and the system of independent assessment of building resistance does not work well. Against this backdrop, this study proposes making geoinformation related to earthquake risk and suggests application of this data into the creation of management plans. Based on a literature review, such geoinformation is classified into ground factors and construction factors. This study builds a geoinformation database of earthquake vulnerability, which does not presently exist in Seoul. The data set is comprised of eight ground factors and eight construction factors which are used to assess the city’s vulnerability in this area. This study will support the self-assessment system as a way to contribute to strengthening the resistance of the city’s buildings to earthquake.

A Study of Developing Disasters and Incidents Scenarios Based on Emergency Responses

There are many ways to prevent disasters in cities. However, disasters are unpredictable and complex by nature, and scenarios are developed to aid in dealing with them. Disaster scenarios in manuals produced by the Seoul Metropolitan Government are often applied when carrying out emergency training. **A Study of Developing Disasters and Incidents Scenarios Based on Emergency Responses** is a preliminary study on creating realistic disaster scenarios for the people of Seoul. It proposes important elements that any disaster scenario needs to incorporate to be viable.

Jong-Seok Won · Sang-Gyoon Kim

The impossibility of predicting disasters, their complexity and changeability make them even more devastating for people and property. Building scenarios is a practical way to provide realistic simulation and enable actors to identify weaknesses in the emergency response system. In this study, we investigate and analyze the current state of disaster scenarios, actual disaster scenarios, and the usability of related materials and data.

In the Seoul Metropolitan Government (SMG), disaster scenarios are depicted in manuals and exercises. However, this approach lacks realism, scientific method, and linkage.

For advanced usage, disaster scenarios are developed using a systematic, data-based, goal evaluation-oriented and exercise-adjustable method. This contributes to making an emergency response system more effective.

From the perspective of usability, disaster scenarios can comprise data of occurrences, vulnerability and resources for effective response. The data has statistics, report, white paper and geospatial attributes.

We proposed elements of a disaster scenario in Seoul. Those include actors' procedures, situational setting, estimation of regional hazards, goal monitoring, and timeline matching. Our investigation leads us to the following conclusions.

- (i) The SMG needs to use these disaster scenario elements in creating a smart exercise and training system;
- (ii) The SMG also needs to develop advanced manuals with systematic and sensible visualization and diagramming;
- (iii) The SMG needs to create brief first witness manuals complete with clearly-understood illustrations; and
- (iv) The SMG needs to develop disaster scenarios to prevent disasters and assist recovery when they occur.

Activating Management for Creation of the Waterway in Seoul

Waterways are beneficial for many reasons. Trails along their edges are a nice urban amenity, while the waterway itself can help lessen the impact of global warming on cities. While waterway projects have been carried out in Seoul since 2008, their design has not properly considered the characteristics of nearby areas to ensure usability or accessibility. **Activating Management for Creation of the Waterway in Seoul** evaluates a range of components of the nine waterways in Seoul. Based on the findings, this report proposes ways to select areas for potential waterway development. Guidelines are also offered to aid in designs that put an emphasis on safety, convenience and sustainability.

Young-Ran Kim · Jung-Kyu Jin

Since 2008, the Seoul Metropolitan Government has implemented a waterway development project to improve the climate control capability of the city, and create an additional benefit to the living environment, through the use of effluent groundwater dumped into sewer pipes. However, the waterways have existed for only a short period of time, without adequate consideration given as to location and facility design standards, thereby causing a variety of problems and inconveniences to residents.

This study is divided into three sections: i) Establishing design and operational guidelines towards maintaining the various roles of waterways; ii) Selecting appropriate ways to provide a pleasant environment in the inner city through creation of waterways in areas where demand exists; iii) Calculating reasonable costs for construction and management of the waterways.

Diagnosis of the condition of the nine waterways constructed since 2008 revealed the following. First, analysis of the location and environmental conditions showed that 33% of the waterways were constructed without providing access to the area's floating population. In consideration of usability, 44% were located in areas adjacent to rivers, and where there was low demand from citizens.

Second, city water was provided to the waterways, in contradiction to the project purpose. Most of the water supplied was not circulated, but was discharged into

sewers or the river, leading to a waste of water resources. The water quality was also poor since pollutants were introduced from road surfaces, and algae and odor were generated.

We further analyzed and extracted 17 planning elements (such as safety, landscape, ecology, convenience and operation management) that quantitatively evaluate the waterways based on the report on implementation of the plan, in order to comprehensively evaluate the nine waterways. Landscape had the highest priority of the indicators for all nine waterways, with all other elements being below normal level, including stability, operational management, and convenience of use. Convenience of use ranked the lowest of all priorities. All nine waterways lacked sufficient facilities for citizens to rest, and no information system was in place for seven of the nine. The remaining two waterways had information signboards for users.

Creation of waterways in Seoul should be based on guidelines and standards that can overcome the limitations of the existing nine waterways, and which meet the variety of public demands. Therefore, the following three comprehensive guidelines need to be established.

First, this study proposes guidelines to identifying areas where demand exists for a waterway, to meet the needs of citizens. According to these proposed guidelines, 13 sites were selected for usability (areas with daily average floating populations of at least 500), environment (areas with at least 80% impervious area) and sustainability (areas with effluent from subways of at least 300m³ per day).

Second, this study provides guidelines for design and operation in which the diverse roles of the waterway are constantly maintained. These 15 recommended guidelines consider the environment, safety, convenience, and sustainability, and are based on the level of the waterway to be designed and operated above the average. In addition, since the type of waterway, location, form and scale may vary according to local conditions, a separate criterion is provided towards appropriate design, considering the circumstances.

(I) Design guidelines considering the environment

The environmental guidelines should meet the following requirements, for each 1km of waterway: i) 10 water-scape facilities, ii) 100m² of underwater vegetation, iii) 310m² of waterfront area vegetation, iv) As much curvature as possible. When these environmental guidelines are considered, decisions should vary by type of waterway, available funds, and demand from residents, etc. The shape of the waterway should be within a range that does not cause a feeling of danger for users in terms of walkway size.

(II) Design guidelines considering safety and convenience

The safety and convenience guidelines are for each 1km of waterway: i) At least 20 night lamps should be installed, ii) Two or more information signs should be provided for users, iii) 30 items designed for rest should be built, iv) If a pedestrian route exists, a width of 5m or more should be maintained. Rainwater drainage facilities should be installed to handle the runoff from heavy rainfall.

(III) Guidelines for Operational Management Considering Persistence

Most operational management guidelines are irrelevant to the channel length. The operation management criteria are as follows: i) Water quality standards are based on BOD of 3mg/L or less for the acceptance of recreational waterways, and BOD of 5mg/L or less for scenic waterways; ii) Establish water pollution prevention facilities that meet water quality standards; iii) Use effluent groundwater etc., to maintain the volume of water above 350m³ on average; iv) At least 10 cleaning personnel should be added and arranged for each 1km of waterway; v) Perform environmental clean-up inside and outside the waterway at least once a month (distance type waterway roads with a relatively large number of users require more frequent cleaning, at least seven times a month, and application of more stringent standards); vi) In the direct management system of local governments, personnel for management, providing information, and crisis

response are to be arranged in consideration of user demand, with management situation and measures to be recorded in a management register; vii) Management can be delegated to a certified outside institution, which needs to be monitored in connection with civic organizations and local residents.

In summary, this study proposes guidelines for the construction of waterways, and reasonable operational management costs for budgeting. Construction costs were estimated using a multiple regression model, while operational costs were estimated using a single regression model. Per year and for each 1km of waterway, construction cost is estimated at KRW 7.11 million per unit meter extension, while operational management costs are estimated at KRW 13,000 per unit of meter extension.



A Study on Integrated Environmental Pollution Management for Small Businesses in Seoul

Controlling pollutants emitted from industrial work sites is critical for environmental management in Seoul. Rather than dealing with the qualities of air, water and soil pollution separately, an integrated approach is advantageous and efficient. This sort of approach has been developed for pollutants from large-scale businesses in Seoul. A similar approach to deal with pollutants from small-scale workplaces has not been developed yet. **A Study on Integrated Environmental Pollution Management for Small Businesses in Seoul** suggests policy solutions to minimize the negative environmental impact of these small-scale businesses in neighborhoods on the quality of life for residents. Policy recommendations including directions and strategies for integrated environmental management are proposed for small businesses in Seoul.

Yu-Jin Choi · Mook-Han Kim · Hye-Jin Lee

With a steady increase in new pollutants and new sources of emissions, management of environmental pollution for businesses has become complicated. Pollutants emitted from the workplace can affect various environmental media such as the air, water, and soil. Therefore, developed countries have introduced integrated environmental management for businesses to replace environmental media-specific management. The integrated approach means that emissions into the air, water and soil, plus a range of other environmental effects, must be considered together, and protection of the environment needs to be integrated as a whole. Korea has also begun adopting its own form of integrated environmental management for large-scale businesses since 2017. However, in Seoul, most businesses are small, and therefore not even subject to environmental media-specific management. In many cases, these small workplaces are located close to living spaces, which can cause inconvenience for others and lead to a variety of environmental complaints.

In this study, we sought ways to minimize the inconvenience to citizens and improve the environmental management at small workplaces. Directions and strategies for integrated environmental management of these small businesses are suggested herein.

Emergency Response Capacity of the Fire Service by Fortifying It with the Necessary Resources: A Study Focused on Responding to Fire-Related Accidents

Emergency Response Capacity (ERC) is defined as the capability to deal with emergency situations in a timely manner. Comprehensive plans to improve Seoul's ERC has not been devised by the Seoul Metropolitan Government. In the study, **Emergency Response Capacity of the Fire Service by Fortifying it with the Necessary Resources**, the current status and relevant cases are examined, and basic directions for improvement proposed.

Jong-Seok Won · Sang-Gyoon Kim

Taking longer than the 'golden response time' of 5 minutes to respond to a fire incident has resulted in double the amount of damage than would have been incurred had the response time been shorter. Thus, local governments need to move forward with a plan to strengthen their Emergency Response Capacity (ERC). However, the Seoul Metropolitan Government (SMG) has not yet devised a comprehensive Directions and Proposals plan on this issue, nor is it being effectively developed or managed.

The citizens of Seoul live in a densely-populated area with a high concentration of buildings, which places them at risk from disasters. Thus, the SMG is responsible for implementing a Directions and Proposals plan to strengthen ERC. In this study, we propose solutions to this problem, taking into account the current state, related cases, spatial analysis, and the opinions of professionals, as well as engaging in discussions with those in charge.

Our investigation has led us to the following conclusions: (i) The SMG needs to apply directions and proposals to strengthen ERC;

(ii) The SMG needs to define the tasks necessary for formation and implementation of greater ERC;

(iii) The SMG must monitor, on a continual basis, on-the-spot details of ERC;

- (iv) The Emergency Management System must be improved in consideration of its vulnerabilities;
- (v) Coordination of emergency response is needed by both the SMG and residents;
- (vi) New ERC-related needs are reflected in the SMG's Reinforcement Policy.



A Study of Conservation Plan of Farmland in Seoul

Urban farming is rare in a mega city such as Seoul. However, such activity is known to hold some value for the general public besides assisting in the stable supply of local agricultural products. Naturally, farmland is consistently threatened by development pressures, since it has little market value. What complicates things further is that farmland in Seoul differs in terms of current designated land use, size, and the degree to which new development is restricted. **A Study of Conservation Plan of Farmland in Seoul** analyzes the current situation of farmlands in Seoul. The researchers propose a variety of ways to preserve the existing farmland considering its many aspects.

Won-Ju Kim · Jung-Kyu Jin

This study suggests ways to conserve farmland in Seoul, which has almost disappeared through constant decline. To formulate such a plan, we reviewed previous research on farmland and assessed the factors in overseas examples that may be relevant to preservation. In addition, we classified the farmland in Seoul into four types and analyzed the characteristics and farming conditions of each type through data analysis, field surveys, and interviews.

Farmland is an essential element of a city, the foundation of rural areas and the basis for agricultural production, and provides great value to the public. However, it has not been appreciated because of its non-market value. Recent studies assessing the public utility of farmland have shown that it is important to improving the environment as well as providing a stable supply of agricultural products. Overseas, on recognizing the importance of farmland and agriculture, various measures are being used to encourage preservation, such as agricultural activation policies, subsidies, tax benefits and land use regulations. However, conservation of farmland in Korea resulted in preservation of good farmland in the provinces, while big cities did not have suitable legal and institutional devices to prevent privatization.

Most farmland in Seoul is located in green areas within a variety of land-use areas, and is located in gentle slope areas under mountains. Moreover, the farming environment is poor due to high prices of the land and tiny parcels.

In order to analyze the situation, we classified farmland into four types based on land use, land area, development restricted zone and city planning business district. Type A is located in development restricted zones and is suitable for agriculture, while type B is farmland suitable for agriculture in urban planning business districts. Type C and type D are classified as farmland which is not suitable for agriculture, but the former is located in restricted areas while the latter in urban planning business districts.

Regardless of type, the proportion of lean farming was high, while the price of land was different by type, with B being the highest, but self-farming was considered to be difficult except in type C. Since types A, B, and D are located in the mountains, production infrastructure is inadequate and efforts are needed to improve this. Finally, it was found that all types are underdeveloped, not very competitive, lack adequate trading space, and create difficulties in supplying agricultural products quickly.

Farming support and legal and institutional improvement should be concurrent to mitigate these problems according to feasibility and level of demand. First of all, it is necessary to construct a database and information portal that can offer a variety of information on farmland situation in Seoul, landlords, owners, volunteers, crops, farming environment, and land prices.

It seems that rent support will be needed to improve livestock farming conditions and competitiveness in terms of production. Infrastructure will be needed to improve production. An agricultural policy committee should be established to collect expert opinion, and a “buy local” movement cultivated to establish a product distribution network. The Farmland Act, Rice Income Conservation Act, Seoul City Urban Farming Act need to be revised to ensure protection of the rights of livestock farmers and provision of the various methods of support mentioned above. Finally, it is necessary to change the usage area of farmland from the current natural green areas to producing green areas.

A Study on Establishing the Infrastructure for Safe Chemical Management in Seoul

In 2011 and 2012, scores of people including infants died and hundreds were injured from a humidifier disinfectant. No information was available about any of the harmful effects of the disinfectant before the incidents. To avoid such tragic occurrences in the future, the Seoul Institute researchers examine what policy measures have been carried out to protect people from hazardous chemicals and what more can be done to improve the current hazardous chemical management system through **A Study on Establishing the Infrastructure for Safe Chemicals Management in Seoul**.

Yu-jin Choi · Hye-jin Lee

People are exposed to a range of chemicals in their everyday working and living environments, and can also be accidentally exposed to hazardous chemicals due to industrial leaks. In addition, there are hazardous substances in chemical products such as cosmetics, detergents, paints, clothing, and building materials. There are 44,585 registered chemicals in Korea but, as of 2014, only 19% have undergone risk assessment. Moreover, 400 new chemical substances are registered every day. The lack of transparent information, inefficient safety measures related to substance control, and poor communication regarding toxicity are ongoing challenges. Recent cases of a deadly humidifier disinfectant attracted great public concern about toxic chemicals, and is deepening public anxiety on the subject.

In this study, we investigated what the Seoul Metropolitan Government (SMG) has been doing to protect residents from hazardous chemicals, and we examine the ongoing challenges. We also surveyed related people and the general public to identify potential solutions that can be implemented by the SMG. Finally, we suggest an infrastructure framework for the safe management of chemicals in Seoul.

Distribution Characteristics of Alien Plants in Seoul and Their Management Plan III

Exotic plant species have spread around the city of Seoul, and their negative impact on the local ecosystem is well known. **Distribution Characteristics of Alien Plants in Seoul and Their Management Plan III** identifies this distribution and plans for management. This study is the third of its kind and includes interesting information about exotic plant species in Seoul.

In-Ju Song · Seong-Gyeong Yoon

Exotic species are a major threat to biodiversity, as are climate change and habitat loss from use of artificial land. The city of Seoul is likely to be the central base for the spread of exotic species, because of its diversified land use and increasing intensity of artificial land. In particular, exotic plants such as *Sicyos angulatus* and *Humulus japonicus* Siebold & Zucc. are the main spreading threats to native plants and local biodiversity. To prevent further damage, there is an urgent need to improve the management plans for exotic plants.

This study is organized into (i) internal and external research trends on exotic plants, (ii) distribution of exotic plants in Seoul and the status of their management, (iii) distribution pattern of exotic plants according to land-use type, and (iv) management plans for exotic plants.

This study had three goals. First, to investigate the trends in internal and external research on exotic plants, we analyzed any changes that have been made to national regulations (by the Ministry of Environment) on exotic species, the current plans and trends in and state of management, and the current selection and monitoring of exotic species as disturbances to local ecosystems. Second, we propose a list of existing species and a diagram of their distribution, and analyze the system for management of those disturbing local ecosystems, all in the interest of understanding the current situation surrounding exotic plants in Seoul. The list and partial diagram were part of efforts to document the distribution pattern, as was the analysis of the current situation of species disturbing the ecosystem. Moreover, to

understand the distribution pattern of exotic plants according to land-use type (eight types in total), a field survey was performed on areas previously investigated in 2005 and 2010. Third, the distribution pattern of exotic plants and any changes were analyzed, which led to the proposed plans for future management. The change in the trend of exotic plants across land-use type was examined through a detailed comparison between the findings in 2005 and those in 2010. Based on this examination, several areas were identified as vulnerable or requiring critical control. In addition, we propose a method of establishing a more effective management system with citizen involvement. One example of the proposed plans for management in the future was an alternative planting model.

The results can be summarized as follows. According to the research report on the ecosystem of Seoul since 2000 and the list of exotic plants by land-use type produced by this study, Seoul has a total of 232 exotic plant species, or 70% of all found across the nation. It has been confirmed that this number continues to increase. According to our findings on the current distribution of exotic plants according to land-use type, the ratio growing in urban areas, including residential and commercial, has slightly decreased. On the other hand, that in natural spaces, including rivers, forests, and parks, has markedly increased. This implies an urgent need for active and continuous attention to exotic plant management, especially in light of the desire to protect the city's biodiversity and ecosystems. A particularly notable finding was that the proportion of exotic plants found in rivers and rail rights-of-way was over 40%, marking these two areas as "ground zero" in stopping the spread. There was also a slightly increasing trend in the percentage of exotic plants according to land-use type in 2005 (21.2%), 2010 (21.1%), and 2016 (24.2%).

There are seven exotic plant species presently disturbing the city's ecosystems: *Ambrosia artemisiifolia*, *Ambrosia trifida*, *Eupatorium rugosum*, *Rumex acetosella*, *Sicyos angulatus*, *Aster pilosus*, and *Lactuca scariola*. Of these species, the star cucumber, or *Sicyos angulatus*, has been rapidly spreading along riverbanks. In order to manage these exotic plants, monitoring of rivers, forests, and parks needs to be continuous, as these are the areas most vulnerable. In this study, two more areas

(the riverbank facing Gwangjin Public Library and the Anyangcheon stream) were selected as monitoring sites, in addition to the five areas in Seoul currently being monitored by the Ministry of Environment. Four areas requiring critical control were selected and alternative planting models proposed, in order to improve the efficiency of the removal process. The four areas were Anyangcheon, Umyeon Ecological Park, World Cup Park, and the channel junction between Tancheon and Yangjaecheon. Appropriate alternative planting models for riverbanks include reed, loosestrife, iris (wild flag iris, etc.), silver grass, and ditch reed for areas close to marshes, and Korean starwort, bush clover, silver grass, ditch reed for areas close to streams. Appropriate alternative planting models for forests and parks include boxwood tree, Korean azalea, and wax tree.

As important as continuous monitoring of the changes in exotic plants is systematic establishment of a database and provision of information. A significant step would be to add information on exotic plants to the Seoul Ecological Information System website, which will provide easy access to the public. It may also be a good idea to publish posters, pamphlets, and booklets on these exotic plants.

Last but not least, effective management will occur if the network of central offices is strengthened through cooperation with the Ministry of Environment on major policymaking and information, and with the National Institute of Ecology for monitoring and analyzing the current situation. In addition, a liaison could be appointed to go between corporations and civic groups, which will help with implementation of actual management procedures, such as species removal.

Basic Design for Seoul Animal Center (SAC)

It is very common to see people in Seoul with pets or companion animals. At the same time, the number of abandoned animals in Seoul has been increasing, raising concerns. Animal care centers in local district offices provide consulting and animal rescue services, but have been criticized as being insufficient to provide sufficient animal care. In response, the Seoul Metropolitan Government has drafted plans to establish Seoul Animal Centers (SAC), and **Basic Design for Seoul Animal Center (SAC)** presents the master plan for this effort. It defines the division of roles for the SACs and local district offices, as well as proposing ways to collaborate with animal NGOs.

Kee-Yong Yoo · Jong-Chan Yi

In Seoul, 20.4% of households own companion animals, with this number climbing over the past decade. However, animals are still being abandoned. Owners' awareness of their responsibilities remains low, and insufficient public resources and programs exist to encourage better animal care. We can learn from overseas examples how to get involved in improving this through facilitation of surrender, rescue, adoption and care of animals in need. Education and consulting can also be provided. Surveys reveal that rescues by animal care centers in local districts is insufficient. Citizens also asked the Seoul Metropolitan Government (SMG) to act as a control tower for animal care through similar animal care centers in foreign cities. The number of households with companion animals is expected to reach 29% in the near future, accompanied by an increase in the number of citizens demanding the encompassing of animal care.

With this in view, the SMG will run its own facilities, known as Seoul Animal Centers (SAC). This is estimated to bring benefit of 4.4 billion Korean won. Considering the roles allocated to the SMG and *Gu*-district governments, collaboration with NGOs and functional overlap with markets, the SAC is restricted to protecting animals and encouraging responsible pet ownership, such as through placement of surrendered animals, adoption, veterinary care, education, consulting, R&D, and providing a platform for community animators. The southwest area of Seoul, with its high population, is expected to be the best site for the first facility. Three additional facilities may follow if the first one is successful.

A Study on the Management the Odor Emission of Public Environmental Facilities in Seoul

Public Environmental Facilities manage everyday household waste. Besides food waste disposal, these facilities include water regeneration and transfer of waste to landfill sites. Since they are commonly located near residential neighborhoods, it is natural to expect extensive civil complaints about odor. The report, **A Study on the Management the Odor Emission of Public Environmental Facilities in Seoul** suggests a way to strengthen management of these odors. The authors investigate the city's public environmental facilities to identify the sources of odor and present strategies for more effective management.

Yong-Mo Cho · Jung-Kyu Jin

Seoul's improved standard of living has increased awareness of odor emissions, with a resultant rise in the number of related civil complaints. Public environmental facilities directly related to daily life are no exceptions. The number of civil complaints need to decrease if the original goals of establishing public environmental facilities, healthy lifestyles, and consistency are to be realized. In this study, we determine measures to strengthen odor management at public environmental facilities in Seoul.

Two common associated problems were highlighted by our research, despite the facility-specific differences in characteristics and substance of the odor. First, with regard to the main facilities or processes responsible for odor, heaps of sludge and facilities with septic tanks were the main sources at sewage treatment facilities; crushing and sorting waste and drying facilities at food waste disposal facilities; and spaces for crushing, sorting and piling at waste transfer stations. Odor was facilitated at most of these main sources by open-air exposure of the waste. Second, for reasons related to operational management, reduction devices were employed under un-hygienic washing conditions and poor odor control. Analysis of 215 odor emission evaluations of public environmental facilities in Seoul over the past 5 years indicated that 6.51% of all evaluations resulted in identification of violations of the acceptable limits at 14 facilities. In most cases, odor emissions were

maintained at approximately 50~60% of the limit. Based on these findings, 8 strategies for strengthening management of odors are suggested.

A survey on waste transfer station facilities indicated that 50% were in residential areas, along with 7 crushing/sorting facilities that released a massive amount of odor. Civil complaints were expected since most facilities have prolonged hours of operation and run during the day when local residents are most active. Of 24 waste transfer station facilities, 42% were in open spaces and 67% did not use checklists for self-diagnosis. In addition, cleaning was done less than once a week in 38%.

Based on the findings of this study, 9 strategies for strengthening management of odors were suggested.

- (i) Using local ordinances to strengthen multiple odor emission standards of site boundaries to public environmental facilities from the current 15 to 12 times of the amount.
- (ii) Expanding application of these strengthened standards to all odor emitting facilities within 5 years.
- (iii) Strengthening obturation management of outdoor storage sites for intermediate and final products and by-products (sludge, solid waste to be released) from the facilities.
- (iv) Flexible application of operating hours that considers weather, climate and peak hours of activity by local citizens.
- (v) Establishing detailed measures for management of the main sources of odor.
- (vi) Regular cleaning of contaminable devices and their parts and maintaining hygiene at these facilities.
- (vii) Regular monitoring.
- (viii) Developing/managing odor control manuals and checklists that consider facility features.
- (ix) Establishing and practicing measures to prevent odors through citizen participation and feedback.

A Study on Urban Safety Indicators for Seoul

There are many aspects to safety in cities and the realm of “urban safety” includes hazards from traffic, crime, and natural and man-made disasters. For a city government to measure risk in a specific area or field, a set of indicators is necessary. Before **A Study on Urban Safety Indicators for Seoul**, such indicators were developed case-by-case. A set of urban safety indicator is a highly useful policy tool to understand where safety measures need to be strengthened. Systems of safety indicators employed in other cities such as New York and London are reviewed. Then, based on citizen surveys and other research efforts, the authors propose an extensive set of urban safety indicators suitable for Seoul that cover a variety of risks.

Sang-Young Shin · Youn-Sang Lee

Indicators provide information summaries on conditions and changes of interest. Using them allows policymakers and the general public to understand situations easily, as they quantify and simplify complex, real-world situations.

Urban safety indicators show conditions and changes in urban safety (or risk) and safety management activities. They support related policymaking and are sources of urban safety information for the general public.

At this time, such indicators are employed on a case-by-case basis and only when necessary. They have not been systematically developed and are utilized by considering various urban safety areas. Databases used to measure them have problems and insufficient institutional arrangements exist to utilize them.

The purpose of this study is to suggest the development and utilization of urban safety indicators for metropolitan Seoul after exploring concepts and domains of urban safety and investigating relevant domestic and foreign cases.

First, we explore the concepts and various types of urban safety indicators based on indicators in general.

Second, we look into the current indicators employed by Seoul Metropolitan City and specify their problems and issues. These indicators are overwhelmingly individual input and output indicators that are related to priority projects and

business of the city government. Outcome indicators that are policy goal-oriented and citizen oriented are rarely used, and they are neither systematic nor representative.

Third, this study investigates urban safety indicators used by domestic national government agencies and by international organizations and foreign cities such as London, New York, and Tokyo. Recently, the Korean government announced a Regional Safety Index to compare different cities and support safety management policies and activities, but it fails to properly represent the reality of urban safety in individual cities such as Seoul. Several private organizations announce their own urban safety or risk indicators to support investment and risk management, but such indicators or indices also do not well represent the reality of urban safety within individual cities. In some situations, several cities have developed their own indicators or risk indices to support safety management policies, with such measures strongly based on each city's individual urban safety problems.

Fourth, we suggest urban safety indicators for Seoul. We suggest goal-oriented and problem-solving indicator systems, and emphasize sustainable output or outcome indicators and citizen-oriented indicators.

There are objective and subjective indicators, with the former further broken down into risk type and common safety management. By risk type, these indicators delineate occurrence, damage, urban environment and vulnerability, safety management measures, and risks related to natural and manmade disasters, traffic safety, safety in daily life, and safety against crime. In terms of common safety management, the indicators represent emergency response, public participation and capacity, and administrative capacity and support. The subjective indicators are based on a questionnaire reflecting public perception, satisfaction, and priorities with regard to urban risk and safety management. This study suggests 90 indicators: 80 objective and 10 subjective.

We also suggest directions for developing risk indices as prospective composite indicators—there are numerous cases of risk indices. The risk index to be employed by the Seoul Metropolitan Government should be based on qualified methodologies

and able to represent well the reality of urban safety issues in Seoul.

Fifth, we conduct case studies using urban safety indicators. Compared to other major cities in Korea, Seoul has a relatively high occurrence of manmade disasters, accidents, and crime. Since Seoul has a higher population density than other Korean cities, the level of risk is higher when using urbanized areas as a denominator than when using population as a denominator.

In comparing Seoul and its counterparts in other countries, Seoul has more traffic fatalities, but its crime rate is relatively low.

Finally, we suggest applications and institutional improvements for urban safety indicators, which in turn should be monitored periodically, support policymaking on safety management, and provide information to the general public. In the interest of calculating safety indicators automatically and quickly, database systems must be improved. Cooperation systems should also be improved to gather the necessary data scattered across various divisions and agencies. Finally, improvement is needed to ordinances related to urban safety statistics and indicators.

The Analysis of Operating Status and Improvement Task of the Seoul Innovative Education Zone Project

It takes a village to raise children. In 2015, the Seoul Metropolitan Government began designating local districts, *Gu*, as the Seoul Innovative Education Zone (SEIZ), implementing a variety of programs. *Gu*-district governments and schools are working together to enhance educational programs in and out of schools. Local community groups such as NGOs also have important roles to play in the lives of children, and cooperation between the public and private sectors is key. The study, **The Analysis of Operating Status and Improvement Task of the Seoul Innovative Education Zone Project**, examines what has been done and what more the public sector can do to improve the SEIZ program. Past outcomes are evaluated and policy directions for the future recommended.

Hyesook Lee · Youngjoo Lee

The project named “Seoul Innovative Education Zone” (SIEZ) began with recognition that it is schools and communities who raise children. The SIEZ Project was initiated by the Seoul Metropolitan Office of Education (SMOE) in 2012, when *Gu*-districts such as Geumcheon and Guro were assigned as innovative education zones. The Seoul Metropolitan Government (SMG), SMOE, and local district governments concluded a joint agreement to promote the project through a cooperative governance system between local district governments, civic groups, and schools.

As much as KRW 55.1 billion had been invested and 734 programs completed in the SIEZ project by 2016. As of 2017, 22 of the 25 *Gu*-districts in Seoul were involved.

This study aims to analyze the operational status of the SIEZ project. We use a qualitative research method to describe and interpret difficulties and limitations of governance operations, business practices, and changes in localities that were

brought about. In addition, we suggest tasks towards improvement of the project.

For this purpose, we conducted focus group interviews (FGI), and interviews with committee members participating in the SIEZ project. Survey results are as follows.

The mid- and long-term plans of the innovative education zones were seen as the most important aspect of the project, by 5.7% of FGI participants, who also pointed out that the most significant problem was the lack of cooperation from schools (19.5%).

However, the general perception of governance structure operations was positive. FGI participants gave an average score of 6.78 of 10 points to the level of cooperation between local governments and communities, but marked cooperation between schools and communities relatively low at 5.68 points.

The main results of our qualitative research were that cooperative governance is being established and taking root in the education zones, and that the SIEZ project promotes change in the community as an experimental place for cooperative education with schools. Limitations were pointed out in the quantitative evaluation of the SIEZ project, the absence of alternatives, and insufficient sharing of the understanding and philosophy of the project.

Based on these findings, we suggest tasks for improvement of the SIEZ project. First, towards establishing a legal basis, mid and long-term plans are needed, along with a project promotion team. We propose that the project needs redesigning, including improvements to the evaluation system, compliance with the required ratio of essential projects, establishment of an infrastructure for civil and administrative governance, and systematization of education and training. We also suggest improvement of the governance system and the method of designating zones for the SIEZ project.

A Study of Urban Health Indicators in Seoul

The health of citizens is within the realm of social policy. Seoul is a global city with a population of about ten million. There are a number of citywide health risks, although individual eating and exercising habits are important factors. For instance, in big cities, including Seoul, it is easy to access unhealthy food. Anonymity in a mega city sometimes leads to psychological breakdowns. **A Study of Urban Health Indicators in Seoul** presents 20 urban health indicators for Seoul. The researchers extract information from a literature review, a Delphi survey and many other methods. The report suggests monitoring Seoul's urban health status with the proposed indicators.

Chang-Woo Shon · Jung-Ah Kim

Seoul, capital of the Republic of Korea, has become a mega-city with over ten million people after the country's rapid urbanization of the past 50 years. It has become an advanced, cosmopolitan city, drawing the world's attention as can be seen by the number of foreigners encountered every day. There is, however, always risk stemming from its characteristics as an international mega-city, such as the spread of infectious disease or the increase in persons suffering from heat exhaustion due to climate change. In addition, Seoul stands on higher risks compared to other international mega-cities, such as relationship breakdown, and unequal distribution of healthcare resources. Despite the myriad health risks in the city, discussion has not occurred on developing and utilizing urban health indicators to improve health. This study attempts to develop such indicators to manage the risks to health for Seoul residents and monitor their impact. Following a review of the literature, a Delphi survey, and establishment of specific criteria (availability of data acquisition, comparability between districts and with international mega-cities), this study derived 20 core urban health indicators for Seoul, as well as suggestions on their management and utilization. First, an institution is needed to manage the indicators in a systematic manner, and calculate the statistical findings of urban health indicators. In addition, an urban health map is needed to consistently

monitor the current urban health status of the city and to facilitate comparing the situation with other mega-cities. Finally, we propose ways to apply the urban health indicators to municipal healthcare plans and Seoul Plan 2030 to advance health in all policies.



Framework of the Inclusive City Indicators and the Inclusiveness of Seoul

The concept of an inclusive city has been discussed since Seoul lost its edge as Korea's growth magnet. Coupled with low economic growth and social ills in the 21st century, resolving inequality and disparity has been one of the most important policy agendas. The Seoul Inclusive City Index is presented by researchers in **Framework of the Inclusive City Indicators and the Inclusiveness of Seoul**, with 33 indicators proposed in various areas and dimensions. Using these indicators, this report measures the inclusiveness of Seoul compared to cities in other advanced nations. Of the many findings, half of the surveyed citizens responded negatively to the current efforts of the Seoul Metropolitan Government to reduce social discrimination and exclusion. This is a point that city officials should take seriously.

Miree Byun · Kwonjoong Choh · Minjin Park · Jinah Kim · Yoonseok Choi · Ji-Won Choi

Summary

The Seoul Inclusive City Index is comprised of three areas: Human Inclusiveness, Spatial Inclusiveness, and Governance Inclusiveness. “Seoul: An Inclusive City” should be the city’s vision for the future.

Why has the concept of an “Inclusive City” emerged?

Seoul has witnessed signs of economic uncertainty and social unrest. The city has lost its vigor as the growth engine of Korea. Youth unemployment and household debt have escalated to detrimental levels. A rapidly-aging society presents the risk of generational conflict over a variety of issues. The city’s openness to foreigners and minorities is far below its global peers, and it has no clear solutions to its social problems. A question has arisen as to whether its strategy for development into a global city has made our society “better” in real terms. Seoul has entered a new

phase, a turning point, which differs from its urban development experiences of the past. In the face of difficult and unpredictable socioeconomic issues, the city needs a new action plan.

The Essence of an Inclusive City: Reducing Inequality & Disparity while Increasing Citizen Participation

Seoul is not alone in these trends. Other global cities have faced the same question of whether the fruits of economic development have contributed to building a better society. Many cities have recognized increasing wealth disparities and the prevalence of social exclusion, and join the international community as a whole in paying attention to the concept of an Inclusive City as a solution.

Discussion on the Inclusive City as a way to increase the inclusiveness of a nation or a city must also consider “social exclusion” to better understand the meaning of inclusiveness and to advance the idea in the city or nation. Occurring at both the individual and community level, social exclusion is a normative concept referring to a lack of social participation or benefit, and is regarded as a state or process of excluding individuals or groups from participating, in order to accomplish the purposes of, or realize benefits for, the dominant party. This also refers to exclusion from the fair distribution of economic gains.

Social exclusion is a complicated, multidimensional process. It includes insufficient access to resources, rights, and services in the economic, social, cultural, and political realms, as well as to ordinary relationships and activities available to the majority of people in a society. It results in structuralized poverty, which is the cause and result of economic inequality.

The European Union (EU), International Organizations, and Global Cities Joining the Discussion on the Inclusive City

Many international organizations and cities are engaged in active discussion of the Inclusive City. To be sure, the concept of the Inclusive City and its interpretation can vary in terms of how to boost inclusive growth and improve the inclusiveness of a city. While the concept first appeared in the late 1990s, it has emerged as an agenda in policy for major international organizations since 2006.

These major international organizations have approached the concept in a variety of ways. The World Bank insists on a transition to inclusive growth from shared growth, a concept that places emphasis on the redistribution of income. It argues that urban inclusiveness should be promoted in the spatial, social and economic domains. The Organization for Economic Co-operation and Development (OECD) launched an Inclusive Growth Initiative in 2012, pointing out that global economic development, ironically, has exacerbated inequality. It emphasizes the importance of establishing social institutions for inclusiveness and fair distribution of economic growth, as rising inequality incurs greater social costs. The United Nations Habitat (UN-Habitat) recommended the Inclusive City as the main theme for the 1999 Global Campaign on Urban Governance. In 2016, the idea of the Inclusive City was adopted as the main agenda for the Habitat III conference. The European Union (EU) calls for inclusiveness to reduce social exclusion, focusing on poverty and the distribution of resources. As a way to eradicate urban poverty, the EU has also proposed development of standards in measuring poverty and identification of groups vulnerable to social exclusion.

Major cities around the world have adopted the Inclusive City paradigm as a vision for the future. The City of New York initiated an urban development plan known as OneNYC, placing emphasis on growth, sustainability, resilience, and equity. OneNYC is a comprehensive plan to address social exclusion resulting from rising inequality. It underscores that New York City is a thriving, sustainable, resilient, and equitable city. The City of Boston suggested four major goals and

strategies to building an inclusive city: (i) Improve the quality of life by strengthening community ownership; (ii) Drive inclusive economic growth; (iii) Promote a healthy environment to cope with climate change; and (iv) Invest in infrastructure, open space and culture.

The Seoul Inclusive City Index Comprises Three Areas: Human Inclusiveness, Spatial Inclusiveness, and Governance Inclusiveness, Six Dimensions, and 33 Indicators

The Seoul Inclusive City Index Framework was developed by The Seoul Institute to reflect the global discussion on the Inclusive City in the city's administration. Our research team first prepared a draft framework of the indices, which was reviewed by experts through brainstorming sessions, and held in-depth interviews to confirm its feasibility and propriety. The experts focused on whether the index embraced the context of the OECD Inclusive Growth Initiative, and whether its framework was comparable to other megacities. The potential usefulness of the data was also considered. Then, a survey of Seoul citizens was conducted to garner opinions on the feasibility and significance of the framework, and on individual indicators. After this thorough review, the Seoul Inclusive City Index Framework was finally confirmed.

The index comprises 3 areas and 6 dimensions with 33 indicators. The three areas are Human Inclusiveness, Spatial Inclusiveness, and Governance Inclusiveness. Each area is composed of two dimensions: Economic Competence and Social Well-Being for Human Inclusiveness; Access to Public Services and Access to Neighborhood Infrastructure for Spatial Inclusiveness; and Citizen Participation and Transparency/Responsibility for Governance Inclusiveness. The dimensions of Economic Competence and Social Well-Being deal with human capacity and the distribution of human resources. Access to Public Services and Access to Neighborhood Infrastructure deal with identification of the levels of inclusiveness

in terms of regional equity and universal access. Citizen Participation and Transparency/Responsibility assess inclusiveness in terms of institutions and processes.

How Inclusive is Seoul, Compared to the OECD Average?

The level of Seoul's inclusiveness was assessed based on the Seoul Inclusive City Index. If it was possible to compare the data, Seoul was compared to the OECD average by each indicator. As expected, the inclusiveness of Seoul varied by category.

Because there were comparable indicators in only some dimensions, there were limitations to fully assessing inclusiveness. Nevertheless, the city ranked higher than the OECD average only in the Economic Competence dimension within the Human Inclusiveness area. In all other dimensions, it ranked lower.

Taking a closer look, in terms of Human Inclusiveness, Seoul scored higher in Economic Competence, but lower in Social Well-Being. Spatial Inclusiveness was difficult to assess as there were only three indicators comparable to OECD data, which were in the dimensions of Access to Public Services, and Access to Neighborhood Infrastructure. In the Citizen Participation dimension within the Governance Inclusiveness area, Seoul scored rather poorly.

Seoul Inclusiveness Rated as Low by Citizens

Do the citizens of Seoul think their city is on the right path toward becoming an inclusive city? We conducted a survey of Seoul citizens on this subject, and most rated it poorly. About half (49%) responded that economic and social inequality had increased in Seoul in the past five years. This figure was more than three times the number of respondents who stated the opposite (16.2%).

The survey also asked how hard the city strove to reduce social discrimination and exclusion. About half of the citizens (49.8%) responded, “The city has made some effort”, while the other half (50.2%) responded, “The city has not made sufficient effort”. It can be concluded that most citizens think Seoul has not worked hard enough to be more inclusive.

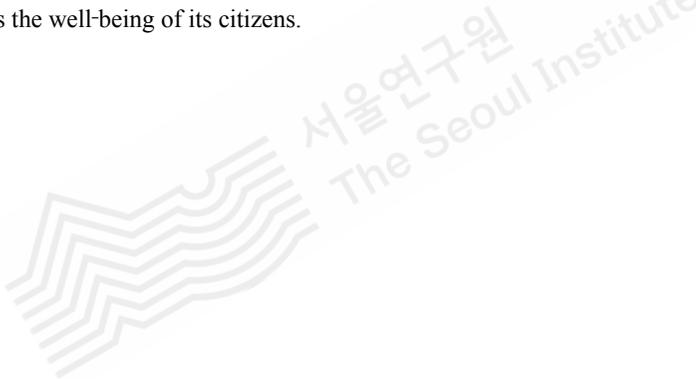
In order for Seoul to become more inclusive, people felt that “measures to increase the transparency and responsibility of public policy (24.5%)” was most needed, followed by other inclusive policy suggestions including: policy to create more public service jobs (18.0%); assistance to low income groups and minorities (16.7%); better public services by improving neighborhood infrastructure (16.3%); policy to reduce regional disparity in public facilities (15.9%); and measures to encourage the participation of citizens from all walks of life in public policy (8.7%).

If the Seoul Metropolitan Government Wishes Society to be Inclusive, It Needs to Adopt “An Inclusive City” as the City’s Vision for the Future

Over the past half century, Seoul has become a global city through rapid economic development, and has been dubbed “the miracle on the Han River”. As the national growth engine, Seoul has been at the heart of this economic development. Gross National Income, per capita, has reached almost USD 30,000 per year, with economic growth manifesting itself in a boom of apartment construction and car ownership. However, Seoul now confronts issues once hidden by its rapid growth, such as inequality between classes and regions, social polarization, and lack of social transparency and trust. The city needs to tackle a range of social problems, such as the world’s highest suicide rate, the world’s lowest birthrate, and a rapidly aging population, with inequality at the heart of it all. With thwarted expectations of the fair distribution of economic gains, a majority of citizens have felt a sense of deprivation, envisioning a grim future for themselves as

that characterized in, “Hell Joseon¹”. It is high time for Seoul to shift its urban development paradigm towards inclusive growth and making itself an inclusive city.

To that end, the city needs to improve in the area of Human Inclusiveness, through implementation and expansion of policies to mitigate inequality and disparities in the population. Spatial Inclusiveness also needs to increase, by reducing inequality in housing and decreasing unsafe housing and unsafe neighborhoods. Through alleviating the time inequality among its citizens, the city must create an institution where meaningful participation and policy transparency are ensured. It is imperative for the Seoul Metropolitan Government to adopt this idea of an Inclusive City as its future vision if it wishes to build a better society that ensures the well-being of its citizens.



¹ Joseon was a Korean kingdom (1392 to 1892) in which Confucian hierarchies and a feudal system were entrenched. “Hell Joseon” is a buzzword used to criticize the unfairness of Korean society where upward social mobility is effectively limited. The term was first coined in the early 2010s.

Risks and Safety: Citizens' Perception and Regional Attribute

Risks and Safety: Citizens' Perception and Regional Attribute seeks to understand the awareness of citizens to risk and safety. In terms of social or geographic equity, a concept of such serves to influence the way the public perceives risk and safety in urban life. People of different genders and from different socio-economic backgrounds (determined by age, education or income level) view risk and safety differently. This should be referenced when formulating equity policy for the city.

Kwonjoong Choh · Sang-Young Shin · Ji-Won Choi

As Seoul has experienced several disasters, public awareness of policy and interest in safety has increased. The city faces a variety of risks accompanied by the trends of urbanization and population aging. Of the issues related to safety, the problem of inequity should be closely examined. Social inequality is interwoven with distributions of safety and risk. Socially weaker groups may experience higher risk and less safety than other groups. Citizen perceptions of risk and safety may vary according to socio-economic status and area of residence. Regional distribution of disaster risks may differ alongside regional attributes.

This study attempts to illustrate these citizen perceptions of risk and safety issues in Seoul, with social groups based on gender, age, education, income level, occupation and residence having different levels of perception. This has significant meaning in that subjective perception of safety varies and the distribution of risk is uneven.

Regional distribution of disasters is illustrated according to regional attributes such as demographic composition in terms of gender, populations of the elderly or children and poverty levels. These attributes are related and may confirm the importance of regional equity in distribution of safety and risk. Future studies should attempt to formulate policy promoting greater equity in relation to urban safety in Seoul.

The 2015 Seoul Welfare Survey: An In-depth Analysis Report

To reduce inequality in Seoul, a variety of welfare policies and programs have been formulated and implemented. The Seoul Metropolitan Government conducted the Seoul Welfare Survey in 2013 to glean the information necessary for appropriate welfare policies targeting the right people. **The 2015 Seoul Welfare Survey: An In-depth Analysis Report** provides an analysis of the survey findings. With its limitations, we believe that this report provides a number of useful policy implications for welfare policies in Seoul.

Kyung-Hye Kim · Dong-Yeol Jang

The Seoul Metropolitan Government (SMG) has been conducting the Seoul Welfare Survey since 2013. This report provides results of an in-depth analysis of the 2015 Seoul Welfare Survey. The data comprises 3,019 sample households living in Seoul and parameters ranging from basic household characteristics and family life to the welfare needs of various populations.

The analysis provides profiles of the major subgroups of interest in Seoul, and consists of three parts. The first part is on population of and households in Seoul, which covers household living arrangements, elderly households, households headed by females, and baby boomers. The second part deals with economic issues, including poverty and inequality, typology and characteristics of poor households, assets and debt, and the middle class. The final part discusses work and lifestyle. The economic activities and living conditions of the working poor are reviewed, followed by profiles of Seoul's young people such as the NEET generation and kangaroo households.

Our findings provide useful information for establishing welfare policies as investigating profiles of target populations is the top priority in policy making. However, the Seoul Welfare Survey has some limitations. Establishing more reliable data is a challenge for the SMG in order to create evidence-based welfare policies.

Supporting Strategies for the Free Semester System in Seoul: Focus on Activities of Career Exploration

Supporting Strategies for the Free Semester System in Seoul: Focusing on Activities of Career Exploration delves into the role of the community in out-of-school activities and programs. This became an issue after the Free Semester System was initiated in 2013. For one semester, middle school students participate in diverse activities to discover their talents and dreams. The students have no examinations for one semester. The premise of the study is that the community should be an important part of out-of-school activities for students. A survey was conducted to find the problems and potential of the Free Semester System, and policy recommendations are given out of the survey findings.

Hyesook Lee · Youngjoo Lee

The “Free Semester System” was introduced by the current government in 2013, and expanded to all middle schools after a pilot project in 2016. The purpose of this system is to allow first-year students in middle schools to discover their own dreams and talents, doing away with education geared around entrance exams. In order to assist students with such discovery, activities outside of school and in the community are needed, making the community more important.

In this context, this study analyzes, through a survey, case study, and interviews, the corresponding situation of the free semester system in Seoul, as well as suggesting activation plans. The survey was carried out to assess the operating status of the free semester system in 105 public institutions in Seoul.

Major results of the survey and interviews are presented below:

First, while the interest of the heads of these public institutions in the free semester system appeared to be high (69.5%), the supporting system, such as funding and support staff, was inadequate. The per-institution expense amounted to KRW 21.532 million, while the number of permanent staff averaged 2.2 persons.

Second, community organizations pointed out that sharing about the school situation was urgent to enable the free semester system.

Third, career exploration activities that support work experience related to

careers have been linked mainly to schools and community organizations by the Center for Supporting Career Experience (hereafter referred to as the CSCE).

On the basis of these findings, this study suggests several strategies. Most needed is strengthening of the system supporting career experience by designating the CSCE as a hub center. We also suggest that the Seoul Metropolitan Government (SMG) offers a variety of incentives to community organizations providing career experience and support official training and education. At the same time, it should support development of a program to improve the quality of career experience activities.



The Real Condition of Labour in Seoul Immigrant Workers and the Protection Method for Labour Rights

As Seoul has become a global city, the number of foreigners has dramatically increased. Among them are immigrant workers who tend to create demand for targeted policy and programs. While this is within the realm of the Seoul Metropolitan Government, there is insufficient information available to properly understand the conditions of these immigrant workers in Seoul. **The Real Condition of Labour in Seoul Immigrant Workers and the Protection Method for Labour Rights** investigates their socio-economic characteristics such as nationality, marital status, number of working hours, wage, and legal status. Focus Group Interview (FGI) were conducted to hear from immigrant workers themselves about their working conditions and their human rights. Some findings related to their treatment are disturbing. The authors suggest that the Seoul Metropolitan Government devise strong policy measures to improve the working conditions of immigrant workers.

Jin-woo Joo · Kyung-Hee Shin · Young-Joo Lee

The number of foreign residents in Seoul has steadily increased each year. According to statistics released by the Ministry of Government Administration and Home Affairs, the number of foreign residents in 2015, at 457,806 people, represents a 67.5% increase over the 308,840 foreign residents in the city in 2006. Within this population, the number of immigrant workers also increased by about 2.9 times, to 116,817. This latter increase requires a more active policy by Seoul organizations associated with population, national competitiveness, and social issues.

The purpose of this study is to analyze the status of immigrant workers in Seoul and to assist in establishing a permanent support system for them. According to the foreign employment survey in 2015, which evaluated the employment situation of immigrant workers in Seoul, the city's immigrant workers have different characteristics from immigrant workers in other areas around the nation.

In our study, the percentage of non-professional employees and marriage migrants was lower than the national percentage, while that of foreign nationality Koreans and visiting employees (H-2) was high. Korean Chinese made up the most

common nationality, comprising 60.0% of the study population, while the highest proportion of immigrants were employed in the services industry. A large proportion of immigrant workers in Seoul worked long hours (60 hours more per week) with a serious wage gap existing between workers. The percentage of immigrant workers employed by small businesses in Seoul was higher than the national percentage, while their labor contracts were shorter. Consequently, the proportion of temporary and daily workers (in “vulnerable employment”) was significantly higher than the national average.

The status of immigrant workers in Seoul was further explored through focus group interviews (FGI). These interviews revealed that immigrant workers in Seoul were exposed to unfair treatment, infringement of their rights and threats to their personal safety in relation to wages, working conditions, labor rights, industrial safety, etc. Human rights violations and social discrimination were found to be serious problems in addition to employment difficulties. However, migrant worker support policies in Seoul have focused on support for multicultural families and foreign residents, so there are few policies protecting the rights of immigrant workers. Those that do exist are implemented by 6 foreign employee assistance centers, which offer a variety of services such as counseling on the protection of their rights and interests, community support, medical care, education, and sociocultural events. However, integrated services ranging from consultation to acquisition of rights are insufficient.

This denotes a need for improvements to supporting policies for the strengthening of accessibility and professional skills, universal protection of the right to work, and the expansion of governance. Stronger integrated one-stop services ranging from counseling to remedies for infringement of labor rights will do much to improve the situation. Towards improving capacity to assist foreign workers, it is necessary to employ full-time certified labor attorneys at foreign employee assistance centers and establish support departments in Seoul that can help with labor issues. Support policies should apply equally to immigrant and Korean-born workers to ensure universal protection of labor rights. It is also necessary to develop a system in which immigrant workers can participate directly.

Policy Suggestions for Invigorating Living Cultural Art Clubs in Seoul

Small cultural art clubs can be found mostly in residential communities, where residents form them to engage in cultural activities. The results of a survey reveal that more and more people are expressing a desire to participate in community cultural activities, with more than 1,000 related facilities already in existence. **Policy Suggestions for Invigorating Living Cultural Art Clubs in Seoul** examines the activities and needs of cultural art clubs. Through a complete survey of a number of them, this study contributes to understanding their current status. Policy directions for the Seoul Metropolitan Government are proposed.

Seonhae Baik · Do-Sam Na · Yun-Jung Cho

The purpose of this study is to understand the activities and needs of living cultural art clubs, active in Seoul, and to suggest a direction for invigorating so they can contribute to the formation of local cultural community while maintaining their autogenous ability.

We investigated the current state of living cultural art clubs active in providing public cultural facilities in Seoul to understand their activities and needs through surveys and interviews. We found the following:

We classified the 1,329 active cultural art clubs providing public cultural facilities in Seoul into four types according to their orientation: culture-sharing, self-development, friendship cultivation, and volunteer work, which was further divided into those that are artistry-centered (learning, presentation) or community-centered (exchange, social contribution). These cultural art clubs in Seoul turned out to be largely 'self-development-oriented', with 72.9% fitting that bill, which indicated a strong demand for learning and presentations on culture and the arts, and use of artistic activities as an important element to developing a sense of achievement. However, these clubs focusing on self-development were also more likely to participate in social contribution activities and clearly aimed at culture-sharing activities through active exchange with other clubs. Nevertheless, the lack of opportunities to engage in social contribution and networking activities

as well as a lack of information served as obstacles to these endeavors.

We selected ‘Enhancement of the autogenous foundation’, ‘Creation of an environment for clubs to engage in activities’, and ‘Construction of a public support system’ as the three directions for providing support to these living cultural art clubs, and 10 main tasks to be performed by integrating previous studies and cases from within and outside Korea, research on the current condition of clubs and their goals, and other such information. Further details are as follows:

Firstly, we need to strengthen the autogenous foundation of these clubs. This requires construction of a system that allows them to grow and develop, which can be achieved by forming a living cultural community network that connects clubs rather than exclusively focusing on support for individual club activities. Action required to achieve this goal include cultivation of intermediaries, construction of a sharing platform, and hosting of a living cultural festival in Seoul.

Secondly, an environment is needed to help the clubs expand their activities. According to a survey of the clubs, space and equipment is a key factor in invigorating club activities, meaning that a system is needed to continue discovering local cultural infrastructure which can serve as the base for club activities and the sharing of such space and equipment. Tasks required to fulfill such a goal include provision of space for residents to engage in living culture and art-based activities, development of a project towards building a living culture support center, expansion of presentation space for events including a ‘Club Presentation Week’, and management of a warehouse for shared equipment.

Thirdly, a public support system is needed to strengthen the clubs’ autogenous foundation and create an environment for their activities. Since living culture and the arts are highly local in nature and occur inside the living zone, constructing a local foundation is exceptionally important. The city must create political conditions to help invigorate living culture and support the tasks needed from its autonomous *Gu*-districts. Organizing and hosting a living culture festival that connects these 25 *Gu*-districts, enactment of an ordinance promoting living culture, and construction of an activity network for living cultural art clubs, an integrated

information system, and a foundation for cultivating facilitators can be included in the above plan. Autonomous *Gu*-districts must support the discovery of living cultural art clubs and their activities inside living zones and such support can include sharing space and equipment and facilitate small presentation activities inside the districts. Tasks needed to construct a public support system include support for invigoration of living cultural art clubs in the district, establishment of an ordinance promoting living culture, and establishment and execution of a living culture policy.



A Study on Improvement of the Public Arts in Seoul

On the streets of Seoul, one can see a lot of artwork, such as sculptures, displayed in front of buildings, with statues and monuments a common sight in the city's Central Business District (CBD) in Seoul. Nonetheless, **A Study on Improvement of the Public Arts in Seoul** suggests that these are poorly managed and not utilized to their potential. Problems are manifold. For example, relevant regulations are scattered to different city ordinances and agencies. And sometimes regulations themselves are not effective. This report looks at ways to improve the situation.

Do-Sam Na · Jung-Hyun Lee

Since the Culture and Arts Promotion Act established a system for architectural artwork, a variety of art pieces have been installed all over the country. A total of 3,824 such pieces of artwork had been installed in Seoul as of 2015. However, most people cannot understand the artwork due to insufficient explanation and management, so the value of the art has not been conveyed to the public. Currently, Seoul has two public art management systems: one for artwork at buildings and one for statues, monuments, and artifacts. These two systems are regulated by separate ordinances which focus only on management, not utilization. In addition, public art programs promoted as projects are not governed by any relevant regulations or systems.

First, the artwork should be installed on a limited basis, and should be removed after a certain period of time. These works can be categorized into permanent installations, temporary installations, and artistic activities, etc., but should be managed under the same platform.

Second, the program for public art projects needs to be more systematic and integrated. Thus, we suggest establishing an independent Public Art Committee responsible for overseeing projects throughout their lifespan. In addition, an Office of the General Director for Public Arts and a related department could be set up to handle public art projects.

Third, a new institution for public art projects is needed. This institution should improve the system for the installation of architectural artwork such as sculptures. Also, we stress the need for systematic management which includes comprehensive review of the currently installed pieces, creation of a database and a guidebook, and drafting of a basic plan for Seoul public art.

Finally, to implement these suggestions, it will be necessary to reform the existing ordinances and enact one that is integrated and more comprehensive.



Policy Evaluation of Family Dentist System for Students and Children of Low-Income Households and Its Suggestions

On average, the number of cavities are increasing for children in Seoul, with one view that children in low income households have more cavities than those that are better-off. **Policy Evaluation of Family Dentist System for Students and Children of Low-Income Households and Its Suggestions** evaluates the current oral health programs in Seoul, and provides lessons learned from the evaluation to improve them.

Chang-Woo Shon · Jung-Ah Kim

The amount of personal and public expenditures on oral health in Seoul has increased significantly over the years. The number of cavities in children (including students) is much higher than the OECD average. There is also an emerging view that children's oral health is related to their parents' socioeconomic status, which raises issues regarding disparities in the use of dental services. Against this backdrop, this study evaluates the "Family Dentist System for Children from Low-income Households" policy, which began in 2012 as a demonstration project in 6 of Seoul's 25 autonomous *Gu*-districts. Drawing out results and lessons from its evaluation, this study provides some suggestions to improve the policy and make it more sustainable for all autonomous *Gu*-districts in the capital.

Policy needs to cover more people and undergo a budget expansion to include more students. This study also recommends that payment needs to change from a mixed system, of both per diem and fees for services, to a capitation system which would allow coverage of all in elementary school.

Limitations exist in data for analysis due to the short observation period. Therefore, it was difficult for this study to conclude the efficacy of the policy. However, this study finds out that students and parents better recognized the importance of oral health and satisfied with the current policy. It also confirms that limits in governance exist that restrict the participation of all stakeholders in policymaking, supervision and regulation.

Analysis of the Current Situation and Suggested New Direction for the Seoul Healthy City Project

The World Health Organization (WHO) has carried out Healthy City projects for a long time. The vision of the WHO healthy city is understood as a city where citizens work together to improve the physical and social environment as a way to increase the quality of life and health. In Korea, all 81 municipalities are members of WHO Healthy City projects. However, local governments here have focused on participation itself rather than genuinely trying to improve the health of their people. In the 12 years since these Korean cities became members of WHO Healthy City projects, there have been no tangible outcomes or visions for the future. **Analysis of the Current Situation and Suggested New Direction for the Seoul Healthy City Project** critically examines the current status of the Healthy City project in Seoul and proposes new visions for the future.

Eunsook Moon·Myung-Hee Seo

This study has five major parts. First, it reviews the healthy city project conducted by the Seoul Metropolitan Government (SMG) over the past 12 years. Second, it presents suggestions to improve the project through a general overview of World Health Organization (WHO) Healthy City projects. Third, it draws implications for the Seoul Healthy City Project from the experience of European “healthy cities”. Fourth, it aims to identify the SMG’s role in Healthy City projects throughout Asia. Fifth, it proposes development of a sustainable healthy city in Seoul.

The city environment and living conditions greatly influence citizen health, which does not improve through medical innovation alone, but must be accompanied by a significant change, through scientific evidence and experience, in this environment and living conditions. The Healthy City Project is a new framework for changing current health policy that presently depends on disease control and medical technology.

The Healthy City Project is important for the following reasons:

- (i) It requires establishment of a health plan for overall civic administration;
- (ii) It identifies a strategy and method to strengthen the role of local governments and make efficient use of local resources;
- (iii) Healthy City Project outcomes have been proven in real terms;
- (iv) The Healthy City Project requires planning and establishing a health policy based on sufficient scientific evidence;
- (v) The Healthy City Project is helpful for overcoming the barriers and limitations of health policy in Seoul.

In general, the Healthy City Project in Korea differs from its WHO counterpart. The former can be classified as having the narrowest scope, while the European version has been based on the concept and normative values presented by the WHO. Most of the Healthy City projects by local governments are a part of health promotion projects in public health centers.

There have been limitations to the Healthy City Project in Seoul, which include several outcomes since becoming a WHO Healthy City member in 2003. The SMG has opened the door for the Healthy City Project to spread throughout the country through creation of the Korea Healthy Cities Partnership (KHCP). It has since helped 22 autonomous *Gu*-districts build Healthy City Project bases through financial support and instrument development. Even with these efforts, the Healthy City Project in Seoul has not been integrated with the many existing health policies or health initiatives, which has placed fundamental limitations on the project. Also, the content, size and system of implementation has changed whenever a new mayor is elected. These weaknesses present the necessity to reconstruct the Healthy City Project in Seoul from the aspect of the international status and social responsibility of the city of Seoul. Cities around the world are sharing and cooperating through networks at the regional and national level, and supporting other cities in developing countries. The SMG should actively support and lead local governments and strengthen international competitiveness as a healthy city with a high quality of citizen health care and equity.

Suggested New Direction for the Healthy City Project in Seoul

- (i) The SMG should identify an appropriate form of Healthy City Project by analyzing health determinants and profiles including: social and economic circumstances, physical environment, current health and characteristics of its residents, physical and social sub-structures, and community health resource systems;
- (ii) A health development plan and a mid- to long-term healthy city project plan should be established since a sustainable Healthy City Project must be based on a long-term vision and planning;
- (iii) A health impact assessment should be done as this is critical for success and can be used as a precautionary system to address health issues. Such an assessment is especially effective for promoting health policies in transportation, the environment, housing, etc;
- (iv) Seoul should be socially responsible as a global city. A Healthy City Project is a voluntary international agreement that requires genuine compliance, transparent reporting and cooperation between its members. It is the SMG's social responsibility to cooperate with local governments in Korea and provide active support to cities in developing countries;
- (v) The Biotope Health Ecosystem Project, conducted as a Healthy City Project, should be reexamined. There have been problems in the project including: uncertain organization of local health resources, confusion caused by health projects at biotope units, and the welfare administrative system at the *dong* (village-unit) level;
- (vi) Healthy City projects should be distinct and integrated with other projects for better development. For instance, the Healthy Living Unit Project, the Health-Friendly Village Project, the Welfare Healthy Community Project, and the Biotope Health Ecosystem Project can be integrated since they have similar basic purposes. Similar projects should be integrated and connected through appropriate measures;

- (vii) A responsible support and cooperation system should be established for local government Healthy City projects. Healthy Living Unit projects should be integrated with other related local projects. Mid- to long-term vision planning, and the desire to implement, should be clearly presented;
- (viii) A healthy governance system and various partnerships should be established for a Healthy City Project. The actual situation in the local area and community, as well as citizen needs and general awareness, should be reflected in a Healthy City Project.

Social Welfare Expenditure of the Autonomous Districts of Seoul Metropolitan City and Its Financial Crisis: A Typological Analysis

Tax revenues for each municipality have decreased over the years, while the demand for public subsidies and grants for social welfare programs has increased. Since 2010, the value of subsidies has grown larger than tax revenues each year. Of particular note is that Seoul's 25 local *Gu*-district governments are depending more and more on these subsidies as the number and scope of welfare programs they administer has significantly increased. **Social Welfare Expenditure of the Autonomous Districts of Seoul Metropolitan City and Its Financial Crisis** examines the spending on welfare programs by the Seoul Metropolitan Government and the city's *Gu*-district governments. Critical problems are identified from the investigation.

Seung-Yun Kim · Dong-Yeol Jang · Hye-Rim Lee

As South Korea has made steady progress towards a more mature welfare state, new social risks arising from demographic aging as well as low birth rates are becoming major factors in the rapid expansion of public welfare expenditures. Since these expenditures are one of the largest and fastest growing components of total government spending, with the local and regional government playing a pivotal role in providing social services, they have placed a substantial financial burden on the government, particularly the local government unit.

This study examines the current financial conditions and characteristics of the welfare spending of Seoul and its 25 *Gu*-districts. By grouping similar districts into specific categories, this study provides theoretical types, which allow analysis of fiscal structure and risk factors to fiscal conditions of local districts in each category.

There are four main findings in this study. It was realized that the recent growth of welfare expenditures exceeds that of total government spending, with local governments largely subsidized by the central government. Secondly, since the matching requirements are increasing with the amount of grants and subsidies, the local welfare programs implemented by municipalities based on region-specific

demands, and a number of policy experiments proposed by local residents, have become restricted. Our third observation was the significant differences in the amount and growth rates of welfare expenditures across the 25 *Gu*-districts in Seoul. This impedes the balanced development of social services, and aggravates the regional disparities between richer and poorer districts. Lastly, this study indicates that there are noticeable differences between the characteristics of welfare spending across the region, based on regional demand, and the willingness and ability to pay for local welfare programs.

These findings suggest that considering future demand for social welfare services, existing welfare expenditures will clearly become even less affordable for many subnational governments. The unclear division of roles and responsibilities between the central and local governments as welfare provider has led to heavier financial burden on local authorities, especially in economically-weaker regions. In addition, increasing match requirements for national welfare programs severely threaten local autonomy.

It is thus imperative to clarify the roles and responsibilities of the national and local government. This study recommends that the financial contribution to welfare expenditures between the national and local government needs to be re-organized. The proportion of the matching burden placed upon local authorities needs to be relieved and readjusted based on the nature of the welfare programs and services. To conclude, an integrated financial management system is needed, complete with a measurable index able to evaluate the city of Seoul's fiscal sustainability and soundness.

A Study on Improvement of Policies for ‘Seoul Cultural District’

Insa-dong and *Daehak-ro* are two of the go-to places for tourists in Seoul. These areas are known as “cultural districts” as designated by the Seoul Metropolitan Government. Under cultural district policy from the public sector, a comprehensive plan for management and operation of these areas exists. Nonetheless these cultural districts have suffered from gentrification pressure, meaning that the related policy has been ineffective. **A Study on Improvement of Policies for ‘Seoul Cultural District’** attempts to find out why.

Do-Sam Rha · Jung-Hyun Lee · Chan-Seob Oh

The objective of this study is to review the outcomes of the cultural district policy of Seoul and present suggestions for its improvement. Currently, the Seoul Metropolitan Government (SMG) is operating two cultural districts: *Insa-dong* and *Daehak-ro*, designated as such in 2001 and 2004, respectively. Although they have been operated according to comprehensive management plans as stipulated by relevant laws, they haven’t had much success. Specifically speaking, despite all outward appearances of growth, *Insa-dong* and *Daehak-ro* have had to undergo considerable character changes after their designation.

What triggered these unfavorable changes despite all the management plans established according to law and periodic reviews done every three years? This study analyzes the institutional factors behind these changes.

We argue that as the cultural district policy was introduced and operated with a focus on *Insa-dong* from the outset, it became difficult to apply this model to other regions. In other words, the focus was on facility maintenance to protect traditional businesses, and this inevitably changed the regional characteristics of areas designated as cultural districts. In addition, there was a failure to encourage residents to act as protectors of these characteristics. Based on these findings, this study aims to thoroughly analyze the way the cultural district policy has worked so far and present some suggestions for implementation of the policy in the future. Following are some of the key suggestions.

First, the scope of the cultural districts needs to be expanded. As the related city policy has focused on *Insa-dong*, only two regions (*Insa-dong* and *Daehak-ro*) were designated and run as cultural districts so far. An institutional environment is needed which facilitates designation of more regions, and thereby establish cultural district policy within the framework of regional management policies.

Second, the focus of cultural district policy should be on activities rather than on facilities and facility maintenance. However, the role of facilities in the regional community has changed significantly. This necessitates revision of cultural district policy so as to encourage resident activities instead.

Third, the main actor of cultural district policy needs to change as well. Currently, the SMG controls the whole process. For more effective implementation, greater discretionary authority needs to be given to subordinate local governments, and the focus shifted onto supporting and monitoring their efforts. In addition, it is necessary to consider introducing a preliminary cultural district and other policies to encourage more local governments to be active in developing more regions with a variety of characteristics, allowing for their designation and management as cultural districts.

The Educational Support for Multicultural Adolescents in Seoul

“Multicultural family” is a term that refers to a household with parents from different cultural backgrounds or nationalities. Children from these families may have difficulty keeping up with their school work when they are not proficient in Korean. **The Educational Support for Multicultural Adolescents in Seoul** conducts interviews with students from multicultural backgrounds and their teachers. The researchers hear their concerns, needs and potential. Several strategies are proposed to provide assistance to those students who need it.

Hyesook Lee · Mihyen Park

This study aims to analyze the school lives of adolescents from multicultural backgrounds in Seoul and suggest ways to support their education.

Towards this end, we review the multicultural policies of the Seoul Metropolitan Government (SMG) and the Seoul Metropolitan Office of Education (SMOE), and conducted surveys and interviews. The main findings of the study follow.

First of all, only about a third of adolescents from multicultural backgrounds fully understood the content covered in their classes. Those who had been in Korea for a short period of time had greater difficulty than other students.

Secondly, adolescents from multicultural families appeared to have no difficulties in their relationships with classmates and teachers. However, teachers did express concerns regarding their low academic achievement. These results were consistent with the interviews.

Thirdly, multicultural students stated that they had the most difficulty in schoolwork, responses that matched their teachers' views.

Fourthly, 14.1% of such students said they had considered dropping out of school. This percentage was 1.7 times higher for those born in other countries than those born in Korea.

According to the interviews, multicultural students had difficulty learning Korean, making their lower academic achievement inevitable. Teachers pointed to this and the cultural gap as the main culprits behind this low achievement.

Moreover, the greatest concern for the multicultural students surveyed was not their identity as a Korean, but about acquiring nationality. Their families had to receive official certification from the government if they wished to stay legally in Seoul.

As a result, this study suggests several strategies to address these issues: (i) provide systematic support to multicultural students; (ii) offer programs that can help improve their education; and (iii) build a network between public and private institutions.



Determinants of Obesity for Adults in Seoul

Obesity is increasing in Korea. It is an obvious health issue to which the public sector needs to pay attention. Policies to reduce the obesity rate have been about individual behavior, while ignoring the potential for characteristics of the urban environment to be factors. For instance, people living in walking-friendly areas may be induced to walk more, leading to lower obesity rates among those residents. Other factors include the prevalence of fast food restaurants or community sports facilities. **Determinants of Obesity for Adults in Seoul** adopts a sophisticated analytical tool to identify factors that affect obesity in Seoul other than individual human behaviors.

Chang Woo Shon · Jung Ah Kim · In Hye Yu

One of three people in Korea is obese. One of the greatest hazards to health, obesity can result in type 2 diabetes and hypertension, and increases mortality rate. In addition, it bears a host of social costs including depression and emotional suffering, and socioeconomic costs can be astronomical, as much as USD 55 billion in 2013, or 2.2 times to the cost in 2005. Policies thus far designed to combat obesity have usually focused on improving individual behaviors, reducing caloric intake, and increasing physical activity. However, since the first decade of the 2000s, there have been discussions that a more comprehensive approach at the social and environmental level is needed to combat and prevent obesity. Against this backdrop, this study analyzed both the individual and environmental determinants of obesity in Seoul in terms of “urban health.”

Following are the results of this multi-level analysis. The common individual determinants for both men and women included increasing obesity rate, alcohol intake, time spent browsing the Internet and watching television, stress level, salt intake, and perceptions on health. After controlling the individual determinants, we looked at whether there was a correlation between the obesity rates of men and women and their living environment. For areas well-equipped with sports facilities, the male obesity rate was significantly lower, while the female obesity rate tended to be low but not statistically significant. Moreover, the obesity rate for areas where

most people commuted by private vehicle was higher than other areas. On the other hand, pedestrian-friendly areas had low obesity rates. The more fast food restaurants there were in the neighborhood, the more men were likely to be obese, while this was not statistically significant for women. However, for women living in areas with low levels of food security, the obesity rate was high. Urban sprawl had a correlation with obesity as well: as it increased, there was an associated increased likelihood of obesity.

Individual determinants affecting obesity are also influenced by environmental determinants in Seoul. Indeed, it is inaccurate to view individual eating habits as merely a matter of personal tendency, as cultural influences come into play. Effort is also needed to improve environments where physical activity is possible. According to our research, variables related to the physical environment, such as walking satisfaction levels, transportation, and sports facilities were correlated with a low obesity rate. In Seoul, the amount of physical activity is determined not only by the road environment and convenience of public transit around residential areas, but also by the distance between residence and workplace. In addition, given that sports facilities are an important environmental factor in preventing obesity, it would be effective for the SMG or local district governments to manage sports facilities and swimming pools.

Furthermore, cooperation between government departments, including those on urban planning, transportation, the economy, public health, and the environment, is needed to reduce obesity rates in Seoul. To that end, governance structure needs to be redesigned for urban health. This study also suggests more cooperative governance between government departments and multidisciplinary research. Through such a new governance structure, we can devise a long-term urban plan that considers both healthcare services and citizen health from a broader perspective.

A Study on Minorities in Seoul

Human rights issues have become the concern for local governments, and are no longer the sole domain of national government. A number of municipalities have enacted ordinances related to human rights, including the Seoul Metropolitan Government with an ordinance protecting basic human rights in 2012. In 2013, the Seoul Human Rights Master Plan was drafted, but much remains to be done. First, minorities have to be clearly defined. This is important since legally-defined minorities receive public benefits. **A Study on Minorities in Seoul** attempts to revise the definition of minorities and brings important points about the Seoul Human Rights Index currently being developed by the Seoul Metropolitan Government.

Kyung-Hee Shin · Ji-Won Choi

In this study, we first define the terms used in the National Human Rights Plan and Human Rights of Seoul City, and the problems and issues faced by minorities. Secondly, we analyze social receptivity and the legal system for human rights and discrimination against ten groups: women, those with physical challenges, children, the elderly, migrant workers, immigrant wives, refugees (excluding North Koreans), North Korean refugees, sexual minorities, and conscientious objectors.

Our findings suggest a need to revise the definition of “minority” in the third National Human Rights Plan, which aims to develop a human rights policy based on the international standard. We accordingly discuss a proposed mechanism to incorporate definitions of “minority” based on international human rights law.

In addition, the Seoul Metropolitan Government (SMG) is developing a Seoul Human Rights Index to monitor several types of human rights issues among vulnerable groups of its citizens. Current human rights indices for these vulnerable groups can be extended to Seoul’s human rights policies and their prioritized establishment. Some of the issues to be included are the forbiddance of discrimination and the protection of human rights. Since the level of social acceptance varies by type of minority, this factor requires consideration under different legislative conditions. Finally, we propose the publication of a Seoul Human Rights Index report every two years.

05 Urban Administration

Enhancing the Role of Internal Audit in the Public Sector of Seoul

Organizations in the public sector are often audited by an internal auditing department, which have focused on whether the public entity has obeyed the law and regulations. The authors of **Enhancing the Role of Internal Audit in the Public Sector of Seoul**, suggest that this modus operandi of internal auditing within public organizations often hinders the efficiency and effectiveness of these internal agencies. The report argues that the role of internal audits should be to guide the organizations in a way to achieve their missions and goals.

Min Chul Shin · Sung-Soo Kim

As the public sector organizational environment has changed sharply, interest in internal rather than external control of organizations has increased. Internal auditing is evolving from a ‘watch-dog’ that checks for compliance with laws, regulations and rules, to a ‘guide-dog’ that contributes to running the organization in terms of overall work flow and actually attaining organizational goals. However, internal auditing in Korea’s public sector still focuses on monitoring compliance and identifying noncompliance rather than on supporting and monitoring internal controls.

This study is intended to comparatively analyze the working conditions and capability levels of internal auditing agencies in Seoul’s public sector, and to suggest improvements based on ideal internal auditing systems for supporting, supervising and coordinating the attainment of organizational goals. A survey was conducted which analyzed the present conditions of internal auditing agencies in Seoul Metropolitan Government (SMG), one autonomous district in Seoul and one affiliated organization funded by the SMG. In order to understand current internal auditing agency work and to enhance the role of mid- to long-term auditing tasks, the study created groups to survey the levels of understanding of working-level

employees in Seoul's internal auditing agencies.

According to our analysis, independence is enhanced by the way the organization chief is appointed in the autonomous *Gu*-district and in the SMG. Efforts to build cooperative relationships with other agencies and provide material support (employee placement, budget allocation, etc.) for the related auditing agencies, however, were insufficient. Inside the auditing organizations themselves, it was shown that, as the portion of tasks outside of those related to auditing increased, coordinating the work of employees in the auditing department became a necessity. Some concerns that came to light during the analysis were that audits were too lenient.

Internal auditing agencies in the public sector in Seoul need to focus on checking for potential problems, prevention, and supporting the agency's goals, going beyond the conventional checking for regulatory compliance. To this end, an effort should be made to strengthen the related human resources in terms of independence and professional competence. A clearer relationship between internal auditing agencies needs to be established if new roles are to be created for them in Seoul.

Establishing a Collaborative Governance-Based Evaluation System in Seoul, South Korea

The Seoul Metropolitan Government has claimed that it advocates collaborative governance and innovation as the central basis for its administration. Placing the concept of collaborative governance at the center of every urban policy has thematically been called “Collaborative Governance 1.0”, with “Collaborative Governance 2.0” proceeding now. Methods used to measure the progress of urban policies should be based on whether the system of collaborative governance was set into every policy and program. **Establishing a Collaborative Governance-Based Evaluation System in Seoul, South Korea** identifies the problems of the current policy evaluation system and recommends a new set of evaluation system to gauge the progress of collaborative governance in every aspect of city administration.

Byeongsun Jeong · Sungho Lee · Kyoung-cheol Kim · Yewan Park · Hyunhye Cho

Because the limitations of the traditional government-led public administration paradigm have become clear, the Seoul Metropolitan Government (SMG) is setting collaborative governance and innovation as keynote policies for the city and has initiated Collaborative Governance Seoul 2.0, which brings the previous Collaborative Governance Seoul 1.0 up to date. As part of this transformation, government evaluation systems are needed to measure compliance with the tenets of collaborative governance. In consideration of the current policy environment, this study aims to build a new collaborative governance evaluation system based on procedures and relationships.

In this study, the current systems are comprehensively defined as the Performance-Oriented Government Evaluation System 2.0, with a focus on the five most relevant issues in these current systems:

- (i) Unreasonable performance goals and performance indices;
- (ii) Unreasonable collaborative governance evaluation indices focused on performance;
- (iii) Weak collaborative governance processes;
- (iv) Failure to make active use of evaluation results as feedback and connect

them with related systems;

- (v) Need to establish a new evaluation system for new community-based collaborative projects.

By addressing the issues discussed in this study, the SMG should be able to advance to a collaborative governance evaluation system that can be called Government Evaluation System 3.0. Toward this end, the study involved the following five goals:

- (i) Develop a collaborative governance-based evaluation model suited for Seoul;
- (ii) Establish a collaborative governance policy evaluation system to replace the current BSC-based evaluation system;
- (iii) Establish a contracting procedure that aligns with the collaborative governance evaluation system;
- (iv) Build a new evaluation system to use with community-based collaborative projects;
- (v) Construct environments that support the collaborative governance evaluation system.

Strengthening Urban Planning and Design Functions in Seoul Metropolitan Government

Improving the physical environment is one of the keys to enhancing quality of life for the general public. In our globalized world, it is also about whether the city retains a competitive edge to attract human capital. **Strengthening Urban Planning and Design Functions in Seoul Metropolitan Government** examines the current structure and characteristics of the organizations for planning, development and architectural designs (the departments within the Seoul Metropolitan Government). Policy recommendations are made, including on the integration and coordination of spatial planning functions.

Min Chul Shin·Hee-Yun Jung·Si-Woo Lee·Min-Hee Kim·Jihye Lee

This study sought to identify different ways of strengthening the planning and design functions of urban policy in the Seoul Metropolitan Government (SMG), in order to enhance the city's competitiveness and improve the quality of life for its residents. In this endeavor, we analyzed the structure and characteristics of the organizations in the SMG related to urban planning, housing and renewal, then diagnosing the problems, conducting interviews, and analyzing the issues arising in planning, development, and performance of the architectural design functions. In addition, we explored the policy implications of strengthening urban space planning through analysis of examples in other cities, such as the Boston Planning & Development Agency and Singapore's Urban Redevelopment Authority.

After analysis of our findings, we propose four policy directions. In order to cope with future changes in the environment, consensus on the direction of and establishment of governing principles on development of urban space in Seoul should be prepared. First, the integration and coordination of functions for urban space problem solving should be strengthened. Rather than focusing on management of individual physical spaces in urban space policy, a long-term perspective should be taken to secure public space, through communication with citizens regarding issues of the entire space unit. Second, linkage with business and cooperation between spatial organizations should be expanded. Toward attaining

the latter, flexible, creative work allocations and evaluations will go a long way. Third, a variety of methods should be employed to both increase expertise and apply it to the work. Finally, we need to focus on individual complaints, and move away from the professional-focused approach to participation and communication.



Issues and Improvements of Risk Management System in Local Finance-Focused on Emergency Financial Management System

The financial situation of local governments in Korea is shaky. Average financial independence for local governments has decreased from 64.5% in 1995 to 45.1% in 2015, according to one measure. There are many reasons for this, including low economic growth, a depressed real estate market and the fact that the majority of tax revenue comes from the national government. To prevent financial crises at sub-national government levels, an Emergency Financial Management System is in place. The study, **Issues and Improvements of Risk Management System in Local Finance-Focused on Emergency Financial Management System** reviews the issues related to the current system to cope with financial crisis, suggesting that it depends on the pre-crisis alarm being effective. A comprehensive set of policy suggestions are made for maintaining stable financial conditions in local governments.

Jun-Sik Bae · Seong-Moon Park

The purposes of this study are to propose an integrated plan to prevent fiscal crises in local finance after examining cases in major countries, and point out problems in Korea's emergency financial management system and the direction for improvement of systems designed to manage local financial crises.

The central and local governments have together introduced an emergency financial management system as one measure to overcome fiscal crisis quickly. There is a strong opposition to the emergency financial management system.

It is still questionable whether the emergency financial management system is effective in situations where the pre-crisis system is maintained after the alarm. In this study, we propose a more comprehensive direction for improvement towards establishing self-financing and implementing better financing conditions.

First, by looking at the overall structural situation of local finance, we propose a system able to prevent financial crises for local governments, attained by improving the overall structure of local finance. The ratio of national tax to local tax will need to be adjusted, and a principle of sharing welfare costs between the central and local governments as those costs continue to increase. Consideration also needs to be

given about ways to secure resources in the future.

Second, we look at the problems in the current emergency financial management system, and also at situations in major countries to suggest creation of a local fiscal crisis management system that suits Korea's needs.

Finally, it is necessary to resolve the problematic parts of laws that regulate the current emergency financial management system as a complement to the set of laws that govern local fiscal crises. To this end, fiscal rules are needed, and improvements to the related laws will help local governments recover from fiscal crisis. Ensuring fiscal soundness through financial regulations will help to prevent financial crisis in the future.



A Study on Monitoring and Evaluation System for Inter-Regional Exchange and Cooperative Development Projects of Seoul

With other municipalities in Korea, the Seoul Metropolitan Government has carried out a range of programs such as cultural exchanges or collaborative development projects. However, those projects have been scattered around many departments. Project types have also diversified into programs on adolescent education, local food, and experiencing “green” villages. **A Study on monitoring and evaluation system for Inter-Regional Exchange and Cooperative Development Projects in Seoul** develops a system to monitor and evaluate the current regional exchange programs.

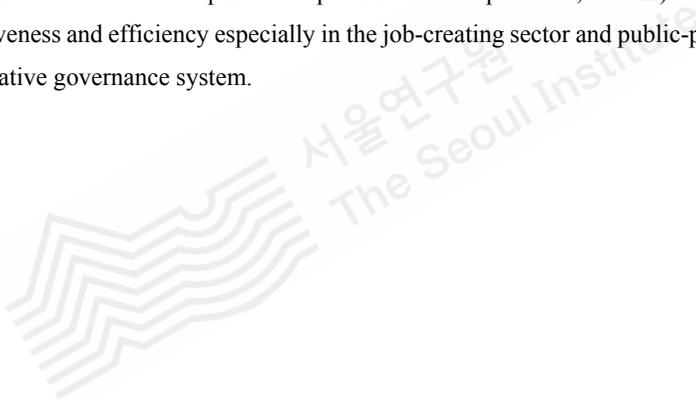
Hee-Yun Jung · Won-Sill Hwang

In 2016, the Seoul Metropolitan Government (SMG) announced its Master Plan for Inter-Regional Exchange and Cooperative Development of Seoul. This plan suggested five policy areas with 19 inter-regional cooperative projects, and expressed the city’s commitment to strong policy promoting inter-regional cultural exchanges and cooperative development projects to reduce the polarization between Korea’s urban and rural areas. Despite a variety of policy efforts from the SMG, there currently exists only limited monitoring and evaluation of related projects, using insufficient quantitative results.

This study suggests establishment of a monitoring and evaluation system towards a more sustainable and cooperative inter-regional implementation of policy. To this end, the current situation of monitoring and evaluation of inter-regional cultural exchanges and cooperative projects in Seoul and relevant literature were extensively reviewed. This study also analyzed the current best practices on cooperative and participatory monitoring and evaluation at home and abroad. Based on a previous analysis, this study suggests a monitoring and evaluation system for Seoul. This new system uses a log frame as logical framework, and adopts self-assessment methods to facilitate participation of various stakeholders. It also develops a variety of evaluation indicators that consider the characteristics of each project sector and the three stages in the entire policy cycle.

This study also proposes four guiding principles for the establishment of this monitoring and evaluation system as basic policy direction: i) keep the system participatory and reciprocal; ii) enforce monitoring and consulting functions through objective performance assessment; iii) adopt a variety of evaluation indicators in consideration of the features of each project sector and the three project stages in the entire policy cycle; iv) keep the approach systematic with a long-term perspective in view on a more sustainable trust-building process rather than relying on short-term project evaluations.

More specific measures for policy improvement are summarized as follows: i) enhance consensus from the project planning stage; ii) minimize the negative impacts and maximize the positive aspects of current practices; and iii) enhance effectiveness and efficiency especially in the job-creating sector and public-private cooperative governance system.



The Seoul Guidebook for Regular Organizational Diagnosis

Normally, public sector organizations are scrutinized by experts from outside, who are very good at finding problems and issues in operation. Nonetheless, it has been the case many times that members of those organizations are excluded from the evaluation process, thus creating conflict and consuming more resources than necessary. The authors of **The Seoul Guidebook for Regular Organizational Diagnosis** argue that it is desirable to conduct “Organizational Diagnosis” internally on a regular basis. This is a sort of manual on carrying out such a diagnosis. This report describes the definition and process with a chapter on utilizing the findings.

Gui-Young Kim · Min-Chul Shin · Min-Sup Hwang · Chan-Seob Oh

Purpose of this Guidebook

Organizational diagnosis is a holistic process of detecting problems in and providing solutions to different organizations. As organizational diagnosis involves the complex stages of collecting extensive amounts of data, analyzing it and synthesizing into potential solutions, a capable assessment agent is essential.

It has therefore been acknowledged as common and natural to appoint an experienced external agent to perform the diagnoses and suggest amendments on behalf of individual organizations. Such professional agents may be experts in assessing and solving organizational problems. Cost- and time-wise, this expertise is more likely than not to be outweighed by shortcomings within the organization, including, but not limited to, conflicts between members and departments.

Thus, this guidebook proposes an alternative: public organizations carry out internal organizational diagnoses that can serve as more than a solution-finding process but also as an important stage in building organizational capacity.

At the core of regular (internal) organizational diagnosis is the manager’s routine examination of his or her organization, through monitoring and analyzing numerous representative indicators. The Seoul Guidebook for Regular Organizational Diagnosis describes a complete set of procedures intended for managers and

street-level bureaucrats, and is to be comprehensible and utilitarian for daily management processes.

Structure of the Guidebook

The Seoul Guidebook for Regular Organizational Diagnosis consists of three chapters. Chapter 1 covers the definition of regular organizational diagnosis and its comparison to strategic organizational diagnosis. Chapter 2 is a full description of five-stage diagnosis procedures. Chapter 3 complements the preceding chapters by providing practical resources on ways to interpret and apply the results of diagnosis in the context of organizational management.

Using this Guidebook

Potential readers of this guidebook are expected to follow, step by step and without great difficulty, the five-stage procedures when conducting organizational diagnosis on a regular basis. However, managers are encouraged to consult external experts on a limited basis, when limited capabilities exist for annual data analysis.

A suggested set of potential indicators and data may guide managers to determine which data may be appropriate at the moment. Then consistency is crucial in monitoring and collecting various data for different indicators. It is thus highly recommended that an appropriate department ensure intra-department cooperation essential for systematic accumulation of data.

Seminar Series on Local Decentralization and Mutual Cooperative Regional Development

The residents of Seoul have been electing their own mayors for a relatively short time, with the first mayoral elections in 1995. Before that, the mayor of Seoul was appointed by the President of Korea, meaning that the central government had complete authority over local government matters. Thus, 1995 was the starting point for local autonomy and decentralization. The Seoul Institute has hosted a series of seminars to reflect on these 20 years of experiences. Many experts contributed, in addition to Seoul Institute staff. **Seminar Series on Local Decentralization and Mutual Cooperative Regional Development** is a summary of the collective efforts to build knowledge on the lessons learned from local autonomy.

Hee-Yun Jung·Won-Sill Hwang

The year 2015 marks the 20th anniversary of popularly-elected local government in Korea. It is worthwhile looking back on the past two decades of experiences and efforts of the Seoul Metropolitan Government (SMG) in local decentralization. It is also a good time to explore the future directions of local autonomy and mutually-cooperative regional development of Seoul.

At the end of 2014, the central government announced a comprehensive plan for the progress of local autonomy. Seoul has also announced a strong commitment to promoting local autonomy and mutually-cooperative regional development towards greater balance across the nation.

With this background, the Seoul Institute held year-round seminar series with 10 major themes on local decentralization and mutually-cooperative regional development. This study contains the contents of these series, including a summary of academic papers, presentation materials and expert opinions in a variety of fields expressed in the discussion.

The main subjects are as follows: the strategy of promoting local autonomy and decentralization, the strategy for expanding local fiscal capacity, activation strategies of the local council, strategy for promotion of mutual regional

cooperation, improvement of grant programs for local government, constitutional reform for a more decentralized government system, diverse configurations of the relationships between local government agencies and local assemblies, relieving the financial burden of social welfare on local government, public-private cooperation for mutually-cooperative regional development, prospects and responses for future national and local finance.



A Study on the Rational Arbitration of Fiscal Resources in Autonomous District of Seoul

Seoul is made up of 25 local *Gu*-districts, each with their own government and elected officials. These district governments face a variety of financial situations based on their tax revenues. The fiscal gap between Gangbuk (the northern area) and Gangnam (the south) is most striking. The Seoul Metropolitan Government, in its striving for balanced growth within the city, needs to make a policy effort to reduce the imbalance between local districts. **A Study on the Rational Arbitration of Fiscal Resources in Autonomous District of Seoul** reexamines the current methods of reallocating financial resources to the districts. The study proposes better solutions for more balanced distribution of these fiscal resources.

Jun-Sik Bae · Bum-Sik Kim · Seong-Moon Park

Due to changes in the social environment, local governments are facing increasingly difficult financial situations. Besides this, due to the expansion of state aid projects, matching funds of local governments are being strained from the increasing financial pressure.

If fiscal imbalances accelerate, Seoul's fiscal situation could worsen. In the context of efforts to minimize the imbalance, the major local fiscal coordination system in Seoul requires evaluation and a reasonable basis.

In the current situation, it is important to adjust current financial resources. Reasonable allocation of limited resources will provide balance to public services and their development in ways directly related to the quality of civil life.

The purpose of this study is to analyze the current resource allocation and propose a direction for better development.

First, there are a variety of approaches in the criteria for allocation of revenue from Joint Taxation of Property Tax. Since introduction of the scheme, the financing gap has mitigated but a further increase in efficiency is required. Modification of this system is necessary, based on a change in overall financial conditions. To that end, different approaches are needed for allocation criteria, considering the linkage issue with a local fiscal coordination system.

Second, subsidies from the Seoul Metropolitan Government (SMG) will be divided and calculated in consideration of demand. Financial strength is feasible under the current standards but explanatory power is weak. In this study, we conducted an empirical analysis considering financial strength and demand. The findings reveal a higher demand for explanatory variables. If we apply the demand, it appears better balanced and shows efficient allocation effect.

Finally, collection grants will be allocated considering the financial strength and the office in charge will install collection grant. Collection grants can also reflect the effect of adjusting the financial resources. For this, it is necessary to provide a distributed application basis. When considering the financial strength, analysis reveals that adjustment effect is better. Also, an exclusive office for collecting tax will minimize tax administration inefficiencies.

Currently, a strategic approach is desirable to determine the goal we want to achieve through fiscal coordination in the autonomous *Gu*-districts of Seoul and methods to reasonably allocate resources.

Retrospect and Prospect of Elected Local Autonomy of Seoul Metropolitan Government in 20 Years: Roles and Challenges to Realize Citizen-Oriented Decentralization

In 1995, the citizens of Seoul elected their mayor for the first time in Korean history. Before 1995, the mayor of Seoul was appointed by the President of Korea. Through the past 20 years of local autonomy, the Seoul Metropolitan Government has experienced difficulties, witnessed potentials and sometimes endured frustration. **Retrospect and Prospect of Elected Local Autonomy of Seoul Metropolitan Government in 20 Years: Roles and Challenges to Realize Citizen-Oriented Decentralization** reflects on the history of local autonomy over the past two decades in Seoul. Various aspects of the local autonomy system are reviewed including finance, citizen participation, and power struggles with the central government. This is an important policy report in suggesting the roles and possibilities that Seoul should pursue in the future.

Hee-Yun Jung · Min-Chul Shin · Min-Ji Ha · Kyu-Myoung Lee · Jeong-Hwa Lee

It has been approximately 20 years since governors or mayors were popularly elected in our country. Seoul is in a special position because of its dominant socioeconomic status. As the capital of Korea, it plays a leading role in the decentralization system due to its senior status among local governments. Therefore, Seoul needs to play different and important roles in decentralization strategies: 1) as a political partner for central government administrations; 2) supporting efforts for balanced national development as a senior local government; 3) enhancing public satisfaction with public services in daily life; 4) supporting reinforcement of the population's democratic capabilities in local autonomy.

This research reviews various activities and achievements of the Seoul Metropolitan Government in terms of local autonomy over the past 20 years and explores the roles which should be pursued in the future. More specifically, the outcomes and limitations of Seoul in local autonomy were investigated and organized from the 1st period of elected local government beginning in 1995 (1995~1998), to the 5th period (2010~2011: Mayor Oh Se-Hoon, 2011~2014: Park Won-Soon). Activities of the current local government (2014~present; the

6th period) were also analyzed. Firstly, major activities and their outcomes focusing on the key factors of the decentralization of Seoul - autonomous legislation, organization, finance, the public roles and work distribution between the central government and Seoul, activities in cooperative governance, and status of citizen participation - were analyzed and described. Secondly, the restrictions on Seoul's autonomous activities within the institutional framework of the current government system in each area and the major obstacles in realizing citizen-oriented autonomy were analyzed. Various real-life cases showing the difficulties in realization of citizen-oriented autonomy were explored and described to help with easy understanding by citizens. Also, a comparison with advanced cases of local government operations in other countries such as Japan was performed in a similar context. Thirdly, the results of this analysis were used to identify policy direction and principles of promoting decentralization of Seoul in the future and the core tasks and strategies to realize these policy goals.

The major tasks that Seoul should promote in each key area of decentralization include: In autonomous legislation, the status of local regulations should be raised through expansion of their authority and scope of enactment of local ordinances. Local autonomy should be strengthened with regard to local government organizations and the number of regular civil servants in local government. Local finance should be expanded through the introduction of autonomous authority to impose local taxes, and reasonable adjustment of revenue sources between the central government and local governments. With respect to the allocation of public work, comprehensive handover of authority, such as simultaneous administrative and financial support for the transferred tasks and the expansion of work transfers enhancing autonomous decision-making authority, should be promoted. In the area of cooperative governance, practical authority of the consultation body should be reinforced. In addition, the roles of citizens should be expanded and their active participation in the process of local decision-making vitalized.

Strengthening the Policy Capacity of Seoul Metropolitan Council

Citizens were able to elect their own mayors in 1995. That year was also the birth of the city council. The Seoul Metropolitan Council, as representatives of the city's residents, plays an important role: monitoring public spending, measuring progress of policies and reviewing budget proposals. Nonetheless, some citizens wonder whether the Council on the whole is able to properly deal with complex policy matters. **Strengthening the Policy Capacity of Seoul Metropolitan Council** examines how the Council is operated with its current institutional setup to find a way to strengthen its policy-making capacity.

Min Chul Shin, Jun-Sik Bae, Jung Yong Lee, Yun-Suk Kwak

This study explores the current institutional and operational strategies to strengthen the policy capacity support system at the Seoul Metropolitan Council, based on the level of policy capacity of municipal activities.

In chapter 2, on literature review, the changing process and structural characteristics of the local council policy support system are examined through theoretical arguments and precedent studies of local councils. Chapter 3 explores the process of changing the legal system, encompassing the changes in the policy support system of the Seoul Metropolitan Council. Surveys and in-depth interviews of diverse stakeholders and experts in the Seoul Metropolitan Council are included in chapter 4. Lastly, chapter 5 examines the various ideas and policy implications for the improvement of policy-making capacity, by examining the actual situation of regional councils in various other countries with different institutional characteristics.

This study proposes four basic principles to improving the policy-making capacity of the Seoul Metropolitan Council. First, the Council should initiate changes to all local councils in advance. Second, a strategic, step-by-step approach to improving the policy-making capacity of the council needs to be established. Third, it is necessary to launch an aggressive internal operational strategy for the external environment. Fourth, there is a need to strengthen cooperative links with

various external human and physical networks surrounding the local councils.

Based on these four principles, this study suggests both short and long-term policy proposals towards strengthening the policy-making capacity of the Seoul Metropolitan Council.

Short-term goals involve reorganizing the internal organization, including expanding the information network base with related entities, and strengthening the expertise of supporting organizations.

Long-term objectives necessitate reviewing introduction of assemblyman aides, and transfer of audit committee and Ombudsman functions to the Seoul Metropolitan Council.



Building a Collaborative Governance Model for Local Community

The overarching theme of Mayor Park Won Soon's administration can be summarized as "collaborative governance". Following after 'Collaborative Governance 1.0', which was an expression indicating the collection of governance features in every urban policy and program, 'Collaborative Governance 2.0' has been launched. Collaborative Governance 2.0 recognizes the critical role of local communities to achieving the city's major goals. **Building a Collaborative Governance Model for Local Community** reviews a range of governance-building projects in local *Gu*-district governments. Based on analysis of the current efforts, this study identifies hurdles and potential for Collaborative Governance 2.0.

Byeong-Sun Jeong · Ji-Yoo Kim

Since the beginning of the 6th mayoral term, Collaborative Governance Seoul 2.0 has been propelled as a key policy. Of the various policy measures to achieve this goal, institutionalizing collaborative governance (CG) at the local level is at the core, as spatially-collaborative projects are taking place in local communities. However, the current institutional grounds and the capacity of local communities are not yet sufficient for this. Therefore, this study aims to build a collaborative governance model for the local community.

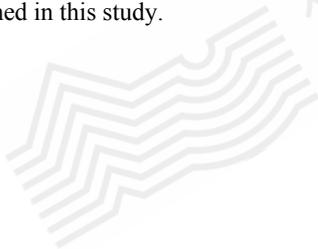
The first step was to identify the current projects in Seoul based on the principles of CG, of which there were approximately 1,126 worth KRW 7.6615 trillion. Of these, the projects that receive grants from the Seoul Metropolitan Government (SMG) accounted for the majority; 920 projects (81.7%) worth KRW 6.0607 trillion. This was followed by identification of formal processes of the CG projects in line with the budgetary processes in the SMG and *Gu* (borough)-level governments. Subsequently, this study examines the current practices and governance structures of CG in three *Gu* in more detail.

Throughout this process, the following five issues were drawn out:

- (i) SMG-led top down policy process;
- (ii) Inefficiencies due to fragmentation and duplication of policies and projects;
- (iii) 'Illogicality' caused by public sector-led CG projects;

- (iv) Lack of opportunity for participation and lack of local community capacity;
- (v) Lack of efficacy due to ‘tokenism’ in CG projects.

In order to tackle these issues, a new model for local-level CG was suggested, consisting of the following three main components: 「Local CG Innovation Plan」 (LCGIP), 「00 Borough CG Committee」 (BCGC), and 「CG Friendly Budgeting System」 (CGFBS). This research focused more on BCGC and LCGIP, while the CGFBS will be studied more thoroughly in a separate study. The LCGIP is a strategic plan established and delivered by local communities. The aim of establishing the plan is to realize bottom-up, participatory, and strategic planning which seeks convergence of relevant policies and projects through joined-up governance. BCGCs have local partnerships, and we suggest that one be established in each *Gu*-district and placed in charge of establishment and delivery of the LCGIP. Realization of the LCGIP and the BCGC will only be possible and effective if an appropriate budgeting system exists, and therefore, the CGFBS was briefly examined in this study.



An Introduction and Operation Plan for the Collaborative Governance Budgeting System in Seoul

“Collaborative Governance” has been a central tenet of administration by the Seoul Metropolitan Government, with various policy efforts initiated at different levels. Genuine collaborative governance also calls for a change in the way city budgets are proposed and drafted. Traditionally, civil servants and politicians have had greater say than citizens. **An Introduction and Operation Plan for the Collaborative Governance Budgeting System in Seoul** argues for the merits of a budgeting system that involves active participation by citizens. The process of making a complete budget is complex. This study reviews the current institutions and identifies major hurdles for introducing a Collaborative Governance Budgeting System.

Byeong-Sun Jeong · Tae-Hee Lee · Sook-Ha Kim

In Seoul, since the beginning of the 6th mayoral term, Collaborative Governance Seoul 2.0 has been propelled forward as a key policy and has formed the basis of a variety of other policies subsequently undertaken. Yet, it was found that the traditional budgeting system—primarily led by politicians and government officials—does not match collaborative governance (CG) policies which call for implementation through public participation, close consultations with stakeholders, and collaboration with various actors. Although ‘Participatory Budgeting’ (PB) has technically been established, in actuality the amount of money allocated in the budget for PB is limited (KRW 50 billion/year—representing only 2% of Seoul’s entire budget). Furthermore, a complicated process limits the use of even these funds. Therefore, a new budgetary system is required to ensure efficacy of CG policies and realize the goals of Collaborative Governance Seoul 2.0 policy.

The current budgeting process was investigated as the first step of this study, which revealed the process in Seoul—as in the surrounding *Gu*-districts—is led by the executive body, i.e. the mayor and other officials. Subsequently, we reviewed the PB process in Seoul and in other cities abroad which are known for their successful implementation of participatory budgeting. This was followed by examination of

the current budgeting situation in Seoul and its *Gu*-districts. As a result, in the *Gu*-districts, grants provided by the Seoul Metropolitan Government (SMG) account for the majority (67.2%) of the funding for CG policies. This means that financially, the *Gu*-districts are very dependent on the SMG and lack financial autonomy.

Throughout the process, four pending issues were identified, albeit drowned out by opposing voices:

- (i) Limited participation of citizens and residents;
- (ii) Various insufficiencies and problems in the structure and operation of the PB system;
- (iii) Problems caused by the top-down budgeting process based on program budgeting;
- (iv) The need to strengthen the institutional basis for collaborative governance-friendly budgeting policies and capacity-building.

In order to tackle these pending issues, a new collaborative governance-friendly budgeting system was suggested. Several measures were introduced. Firstly, an innovative PB model to replace the previous one was suggested. This new model would enable Seoul's entire population to participate throughout the entire budgeting process. This differs from the previous model which had only allowed limited participation, and only within a limited process. The new budgeting model—a decentralized and convergence-oriented model—would also support the 「Local CG Innovation Plan」 (LCGIP) and the 「00 Borough CG Committee」 (BCGC), which together make up Collaborative Governance Seoul 2.0 policy with the CG-Friendly Budgeting System as discussed throughout this study. Furthermore, several other institutions, such as stakeholder committees and organizations, were introduced. Their inclusion will facilitate and enable the implementation of this new budgeting system.

New Policy Discourses about the Seoul Metropolis

New Policy Discourses about the Seoul Metropolis is a comprehensive report about the past, present, and future of Seoul, which was a magnet for growth in the 20th century. While growth has been enormous in quantitative terms, it is questionable whether Seoul has become a people-oriented city offering a high quality of life. Seoul is facing a diversity of major problems such as economic polarization, a housing shortage, and disintegration of local communities. This report analyzes the models that Seoul adopted for growth and how it is learning to cope with the challenges ahead.

Byeongsun Jeong

Currently, Seoul faces a crisis due to a number of problems that have accumulated from rapid development and growth since the 1960s. In order to understand this crisis, it is important to reflect on and understand the history of change and development in Seoul. In this study, we first systemically analyze the development process of Seoul, with particular focus on changes in main city policies over time. Secondly, out of this analysis, we identify challenges that Seoul is currently facing and policy directions.

The crisis inherited in Seoul stems from how the city has worked (as a development-oriented city), leading to Korea developing as a whole. A development-oriented city is based on “developmentalism”, where growth and development is the first priority in social management and public policies. This paradigm has been the core policy value, and can be specified as four elements, including “growth-first” and development-centered mentalities. These elements have been at the heart of the city’s development process for the last 40 years, causing a range of problems.

Such problems can be summarized into six challenges that Seoul is currently facing. In order to address them, there should be a new model for urban development and fundamental transformation of policy directions. The new model is called “Inclusive City”, a city based on the inclusive growth paradigm. This

model focuses on resolving social and economic inequality, regional disparities, conflicts and competition between the social classes, as well as encouraging sustainable growth and development of a metropolis. Also in this study, we present five strategic directions to establish an inclusive city model for Seoul.



Employment Effects of the Community Support Program in Seoul

The Community Support Program (CSP), which has been implemented in Seoul, provides financial and technical support for community building efforts such as capacity-building and strengthening community ties. Although these benefits are invaluable for rebuilding communities around Seoul, they are subjective at best, making it difficult to evaluate the positive outcomes of the CSP. Policy makers need more substantial measures to gauge the impact of the community program, possibly in a quantitative manner. This way, the Community Support Program does not lose momentum. **Employment Effects of the Community Support Program in Seoul** examines the impact of the program on employment outcomes for local participants. This study looks at two different components of the CSP: the Citizen Proposal Program, initiated by residents themselves, and the Infrastructure Program, where organizations are created to support the Citizen Proposal Program.

Dalho Cho · In Hye Yu

The Community Support Program (CSP) has been a major measure in the Community Empowerment Policy (CEP) of the Seoul Metropolitan Government (SMG) since 2012. Many citizens have voluntarily participated in the program to rebuild their communities, and some were provided with jobs and/or work after being hired by the program. This study seeks to identify the program's quantitative effect on employment.

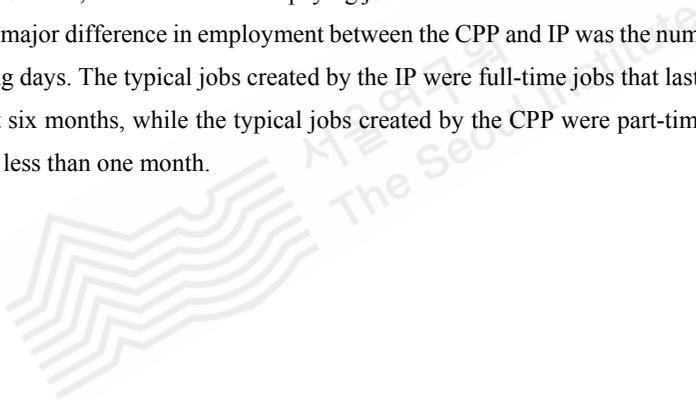
The CSP is composed of the Citizen Proposal Program (CPP) and the Infrastructure Program (IP). The IP involves experts helping citizens in the CPP, and both are the focus of this study.

Jobs in this study are defined as those earning at least KRW 250,000 per month, while work is defined as that earning less than KRW 250,000. In this study, we focus on the employment effects of IP and six different CPPs in 2015. The budget for the two programs equaled KRW 14.2 billion.

There were 741 jobs generated by the CSP, which also generated 2,106 instances of work. This number seems quite significant. In particular, CPP had an enormous effect on job creation. KRW 1 billion budgeted towards the CPP generated more than 160 jobs, which was about four times more than what was created by the best job-creating private sector industry. However, CPP mostly created low-paying jobs.

On the other hand, the IP created only 114 jobs. With a labor inducement coefficient of 11.1, this means that just over 11 jobs were created for every KRW 1 billion allocated towards the program. This value is about the average labor inducement coefficient in Seoul, and the number of jobs far less than the 160 of CPP. However, the IP created well-paying jobs.

The major difference in employment between the CPP and IP was the number of working days. The typical jobs created by the IP were full-time jobs that lasted for at least six months, while the typical jobs created by the CPP were part-time jobs lasting less than one month.



Shopping Tourism in Seoul

One major motivation for visiting other countries is to go shopping, making it an essential activity in tourism. Little is known so far as to how foreign tourists shop when they come to Seoul. It is, for instance, important to understand what kind of products they most buy, how Chinese shopping differs from tourists from Southeast Asia, who spends the most and what inconveniences such tourists face. **Shopping Tourism in Seoul** reports on many aspects of this shopping behavior to find answers to such questions through a comprehensive survey done in international airports in Korea. This report offers valuable input in setting up the direction for Seoul's tourism policy.

Jeonghwa Pan · Sujin Kim

Shopping tourism refers to the purchase of products during a city tour, as well as accompanying activities like eating. Shopping tourism is not merely the idea of buying items that one needs: it involves a leisure activity that serves an important motivational factor to boosting tourism. Engaging in shopping is integral to enhancing the tour experience.

The increasing number of foreign tourists overall and the emerging value of shopping tourism in Seoul have led to an increase in foreign tourists visiting Seoul for the purpose of shopping. Types of shopping, places to shop and preferred products vary with consumer trends.

In this study, we investigated foreign tourist behavior through analysis of characteristics and actual conditions of shopping tourism in Seoul. The subjects surveyed were tourists who considered "shopping" their main purpose for their visit. Their characteristics were examined through quantitative and qualitative research methods. The survey was carried out in Gimpo and Incheon International Airports between December 2014 and January 2015, with 1,045 respondents for the quantitative survey and 50 for the qualitative survey. Main shopping facilities were classified in 7 categories. Places to shop, items purchased and customer satisfaction in each facility were also analyzed. In addition, a comparative study between Seoul and other cities was conducted based on tourism policy and the shopping

environment.

The survey findings revealed that Chinese tourists spent the most money (an average of KRW 2.13 million), while Japanese tourists spent the least (an average of KRW 330,000) per visitor. In terms of spending by facility, duty-free shops in the downtown area were among the highest, but preference for roadside shops or large discount stores is also increasing. Cosmetics, clothing and food were the preferred products. Main shopping locations included Myeong-dong, Namdaemun and Dongdaemun, all downtown areas, and this has gradually extended to Hongik University (Hongdae) and Garosu-gil in Gangnam-Gu. The quality and design of products were ranked as the most common points of customer satisfaction, while human services were ranked the lowest due to the tendency to use 'hard sell' techniques and a general reluctance to offer refunds. Tourism policy and the overall shopping environment in Seoul are competitive with other Asian countries, particularly in terms of product price, variety and quality.

A Study on Spatial Distributions of Different Manufacturing Processes of Major Manufacturing Industries in Seoul

In cities, the manufacturing industry has nearly disappeared. In an age of convergence, urban manufacturing is in the spotlight not only as a potential source of jobs, but as a magnet for innovation. This creates sufficient reason for the Seoul Metropolitan Government to support urban manufacturing industries. The first step to doing so is to understand the internal modus operandi of urban manufacturing, which may differ from the general perception since, by definition, urban manufacturing is located in cities. Our concern is Seoul. **A Study on Spatial Distributions of Different Manufacturing Processes of Major Manufacturing Industries in Seoul** investigates the characteristics of such industries from many angles.

Mook-Han Kim · Hyun-Chul Jung · Min-Young Hwang

The coming age of industrial convergence is forcing us to rethink the role of manufacturing in metropolises. Now manufacturing industries are scarce resources to be utilized for the economic and industrial future of cities in which they are located. More detailed research on the characteristics of manufacturing enterprises in Seoul is needed to develop their economic potential. In this study, we analyze manufacturing processes at major industries to distill new implications for policymakers accustomed to the existing policy framework based on simple industrial and spatial characteristics of manufacturing in Seoul.

With a unique dataset on these manufacturing processes in Seoul, the characteristics of their spatial distribution are analyzed. Manufacturing establishments are classified into non-process, partial-process, and whole-process, based on their scope of fabrication. One of five manufacturing establishments in Seoul is a non-process manufacturer. Core manufacturing clusters tend to embrace all three types, while peripheral clusters are often specialized in one or two types. Gangnam-*Gu* and Seocho-*Gu* are the only specialized clusters of non-process establishments in Seoul.

Putting together the above analyses, policy directions and suggestions are presented. The conventional framework of industrial cluster and related eco-system

should be dissolved, recombined, and expanded to prepare for the future of manufacturing in Seoul. While this industrial cluster and eco-system framework are still needed for blended clusters, a more situated set of policies for specialized clusters may be more effective. In policy suggestions, a framework of four policy types-factory-less, smart, workshop, and platform-is introduced to provide more customized policy options for manufacturing industries in Seoul.



A Study on Supervision of E-commerce Companies in Seoul

Internet shopping, also known as e-commerce, has been a major economic force in Korea. At the same time, consumer loss from fraudulent activity has grown to the point where it has come to the attention of the Seoul Metropolitan Government. Consumer complaints range from problems related to product returns, refunds and delayed delivery. **A Study on Supervision of E-commerce Companies in Seoul** provides strategies to supervise e-commerce industries for the Seoul Metropolitan Government. One of the findings suggests that the role of *Gu*-district governments is important since e-commerce companies are registered in *Gu* level.

Hyungho Youn · Jieyeoun Lee

Recently, electronic commerce (e-commerce) has grown as a result of mushrooming online shopping (including via mobile phones). In line with this growth, complaints filed with the authorities have also sharply increased. A new form of electronic shopping has also appeared, such as via SNS and off-shore locations, resulting in additional related complaints. Thus, the number of complaints from members of the public is expected to continue to rise.

Return- and refund-related complaints make up the largest share, accounting for 35% of the total. Delayed delivery is the next common complaint. On the other hand, the number of fraudulent sales has diminished, indicating that practices in e-commerce have somehow stabilized.

There are fewer legal actions being taken for these numerous complaints of unlawful practices despite legal measures usually being recommended to receive remedy. Financial penalties and criminal charges are rare. It seems that legal actions are not enforced enough to discourage unlawful practices.

To supervise e-commerce activities and encourage lawful practices effectively, Seoul first needs to introduce trained civil servants who will examine unlawful practices and level charges against the perpetrators if necessary. Second, the city should also monitor the mobile commerce industry as the volume of commerce exceeds that of online commerce through computers. Third, the city should cooperate with the *Gu*-district offices to create a unified system for supervising e-commerce activities. Fourth, the city needs to build a consultative group with major companies to encourage their voluntary engagement in lawful practices.

Current Status of Tourist Information Centers in Seoul, and How They can be Improved

Providing information in user-friendly ways to tourists is an essential element to promoting tourism, and the Seoul Metropolitan Government manages tourist information centers for this purpose. Although visitors can access information through their smartphones, tourist information centers still serve an important function, such as by being the first image of Seoul that many tourists receive. **Current Status of Tourist Information Centers in Seoul, and How They can be Improved** examines the way these centers are run by the Seoul Metropolitan Government. The researchers propose what can be done to improve the services provided and ways to do so.

Jeonghwa Pan · Sujin Kim

In the travel industry, a tourist information center is generally the first service facility a tourist from abroad experiences, and can often define a city's image. Today, these centers are becoming more of a multi-service facility for convenience. In addition to easy access and a pleasant exterior, tourist information centers provide reservation and sales services, rest areas, and a variety of tourist amenities in addition to information.

The centers run by the Seoul Metropolitan Government (SMG) include stationary tourist information office booths, mobile tourist information offices, and travel information centers. The number of tourist information offices in major tourist spots seems sufficient, when those operated by other agencies or entities are included. These facilities are not large, but have good customer service.

However, in some areas such tourist information centers exceed customer demand, or are underutilized. This needs to change through consultation with the relevant entities. For more efficient operation, some centers should be consolidated with others or relocated according to their current status. Within the City of Seoul, the operating entities need to be unified. This will provide standardized, reliable services and allow for a system to train professional tour guides.

Greater emphasis must also be placed on improving tourist convenience and expanding services to include major cultural experiences. Modern tourists are accustomed to mobile technology environments, so centers must have internet accessibility and utilize mobile applications. For overall system operation, centers should monitor for changes in tourist demographics, and put in place systems that can improve service through feedback and evaluation.



Seoul City's Activation Plan for the Sharing Economy: Focusing on Shared Accommodation

In an era of low economic growth worldwide, now is the age of the sharing economy. Social trends such as the increase in single-person households act as catalysts for promoting such an economy, which has been well-received as a new way of living and reorganizing the current economic system. However, it is not without shortcomings. For instance, business opportunities created sometimes conflict with existing businesses. **Seoul City's Activation Plan for the Sharing Economy: Focusing on Shared Accommodation** reflects on this issue and others, with a focus on lodging in Seoul.

Jeonghwa Pan, Yoonjeong Park

This study aims to provide plans to revitalize the “sharing economy”, which has emerged as a way to overcome the global economic crisis through reasonable consumption. As one of the solutions to urban problems, the Seoul Metropolitan Government (SMG) established “Sharing City Seoul” as one of its visions as it seeks to solve various social issues through such an economy.

The sharing economy concept indicates a new type of economic activity to share (or lend) extra resources that individuals have, such as items, knowledge, space, and experience with others online. The most important goal is not to maximize profit, but to create social values like conserving resources, protecting the environment, creating a sense of community, revitalizing the regional economy, and earning of suitable profits.

The sharing economy is welcomed as an alternative, innovative economic system, but there are also concerns. As the size of the sharing economy grows, conflicts with existing businesses are occurring. Particularly when these innovative programs are officially promoted, such as car sharing, shared accommodations or tourist guides, it can become a social issue.

Although the frequency of use and awareness of the sharing economy is expanding, this does not result in accurate understanding, as economic benefit still has priority. Residents of Seoul prefer to share with others their knowledge or

experience in a variety of fields. Interest in participating in the tourism industry is increasing.

To activate the sharing economy, it is first necessary to raise public awareness. Above all, a correct understanding of the concept of the sharing economy must be spread. Next, it is necessary to discuss and review the issue of friction between the sharing economy and existing businesses. The SMG should support this and provide a place where people can concern themselves with what to share in new fields.



Proposals for ‘New Manufacture Seoul’

This is the age of the 4th Industrial Revolution, which threatens traditional urban manufacturing in Seoul. There is concern in the Seoul Metropolitan Government as other global cities, such as New York and Tokyo, are becoming friendlier places for innovative industries. **Proposals for ‘New Manufacture Seoul’** suggests ways that the Seoul Metropolitan Government can use the public sector to help transform the manufacturing industry in Seoul. Due to the importance of this study, every staff member in the Department of Civil Economy Research at the Seoul Institute contributed.

Eunjooh Oh · Bumsik Kim · Mookhan Kim · Jeonghwa Pan · Hyungho Youn · Byeongsun Jeong · Dalho Cho · Bong Choi · Seungnam Yu

The 4th Industrial Revolution and the manufacturing revitalization policies of advanced economies and global cities have threatened the competitiveness and survival of Seoul manufacturing firms. The Seoul Metropolitan Government (SMG) has announced its ‘Manufacture Seoul’ plan to support the city’s manufacturing industry. However, the plan does not fully embrace megatrend changes such as the 4th Industrial Revolution.

This study explores the characteristics and the current innovation systems of Seoul manufacturing and suggests a significant transformation in this industry in the city to compete with its global counterparts such as New York and Tokyo. Based on a survey of companies and in-depth interviews with experts, we found that firms in Seoul have a tendency to pursue catch-up strategies. Only 14.3 percent adopted radical innovation linkage with R&D institutes and other firms while engaging in a new product development project. In addition, almost 98 percent did not cooperate with other firms in advertisement, market research, sales, or purchasing. Only 11.5 percent engaged in joint R&D projects with other firms.

This study proposes a new policy vision of ‘New Manufacturing Seoul to Create Value and Innovation’. It recommends four strategies: innovation such as the development and diffusion of Seoul-specific smart technology innovation; creative class development for researchers, engineers, and workers in smart technology;

social manufacturing that enables interconnections between consumers, product developers, designers, engineers, and other service providers both on- and offline; and global growth for small- and medium-sized enterprises to enter global markets.



A Study on Performance Monitoring of a Living Wage in Seoul

Since 2013, the Seoul Metropolitan Government has been administering a 'living wage' that is higher than the national minimum wage. This living wage refers to the actual wages required for a person to meet their basic needs and to sustain a decent life beyond a certain standard while working 40 hours a week, considering a variety of costs (costs of living, education, transportation, and cultural activities). **A Study on Performance Monitoring of a Living Wage in Seoul** is a report published 3 years after the living wage program was first implemented in Seoul. Needless to say, there has been a positive effect on workers, but the study also finds that businesses and the public sector have benefited. The report then discusses ways to bring this living wage to the private sector.

Bong Choi · Hyun-Chul Jung

Three years have passed since a living wage was introduced into the public sector in Seoul. After its implementation, a range of effects have gradually appeared, and now seems appropriate to evaluate the policy. Systematic research on the outcomes associated with performance of a living wage has already been conducted overseas. These studies show that a living wage has a predominantly positive effect on workers, businesses and the public sector. As the initial discussion on a domestic living wage progressed with a focus on policy introduction and implementation, there are no detailed studies on the outcomes of a living wage.

In this study, we prepare a logical basis for the spread of a living wage by concretely investigating and analyzing the results from the public sector accompanying its enforcement and ensuring the legitimacy of introducing such a policy. Through surveys targeting workers earning the living wage, interviews with stakeholders related to the policy, etc., we identify the performance of and suggestions for the policy associated with its enforcement. Consequently, we became aware of the fact that enforcement of a living wage is directly useful for workers from vulnerable groups.

Measurement and Analysis of Outcomes of Social Enterprises in Seoul

Social enterprises are firms or businesses that provide beneficial impact for the general public. They are subsidized by the Seoul Metropolitan Government according to their performance, which is evaluated every year. This evaluation is based on how well the social enterprise has contributed to creating a sustainable society, which will be used to make policy decisions on whether to continue their support. **Measurement and Analysis of Outcomes of Social Enterprises in Seoul** is a report on evaluation using a new set of performance indicators to better capture the social benefits created by these social enterprises.

Dalho Cho · In Hye Yu · Hyun Chul Cheong

Many social enterprises across Seoul have been subsidized by either the central government or the Seoul Metropolitan Government (SMG). This study identifies the methods of objectively measuring the outcomes of these enterprises and evaluates overall social enterprise performance in Seoul. This study suggests a new style of social outcome indices for social enterprises, after revising the 2012 version of social performance indices to better capture more of the social benefits created and also suggest three different social enterprise sustainability indices.

The minimum social outcome index (outcome to subsidy ratio) is measured as 12.9, which means that the typical social enterprise in Seoul in 2015 produced at least USD 12.90 worth of social outcomes for each USD 1.00 in government subsidy, either in the form of hiring or providing services to socially disadvantaged groups. Of the social enterprises in Seoul, 72.8% unambiguously created more social benefits than they received in government subsidies and hence deserve further funding. Only 3.7% of the social enterprises failed to justify their subsidy. The value of the performance index of social enterprises in Seoul is between 12.9 and 29.5, which means that they use the original subsidy to create between 13 and 30 times the benefit.

Although social enterprises have achieved relatively good results, many of them have poor sustainability. This means that future government subsidies remain essential for their long-term survival and performance in Seoul.

A Study on the Promotion Strategy and Specialization Plan of R&D in Seoul

Without a doubt, research and development (R&D) is an economic engine of the 21st century, but it is also very important to regional economies. The researchers who wrote **A Study on the Promotion Strategy and Specialization Plan of R&D in Seoul** are concerned with the current trend of a decline in R&D in Seoul. The report investigates the related needs and issues in every industrial sector and proposes strategies for the Seoul Metropolitan Government. This study specifically looks at three domains in R&D: universities, industry, and government.

Mook Han Kim · Min Young Hwang

There is a serious concern that Seoul's R&D capacity is weakening. Regional investment in this area is one of the fundamental ingredients to boosting long-term regional productivity and ultimately economic development. However, Seoul's share of national R&D investment and human resources has continued to decrease since the late 2000s. It is about time that sustainable R&D policies are made for Seoul's long-term economic prosperity.

Key regional R&D indicators were analyzed to evaluate Seoul's regional R&D capacity. The city maintains its dominant position in university R&D, but is losing ground in R&D in industry and in government, where related programs have experienced significant budget cuts, while R&D investment from the private and public sectors has gradually increased.

Stakeholders in university, industry, and government were interviewed to identify policy demands and implications in R&D. Although some unique demands could be found in all three domains, two key issues were identified in Seoul's related policy. First, uncertainties in this policy should be addressed by establishing long-term visions and plans. Second, a variety of policy demands besides direct public investment exists at the pre- and post-R&D stages, including R&D planning, commercialization, and business development.

Three policy directions in R&D policy were suggested for Seoul. First, R&D

tasks should be systemized into coherent R&D policy. Second, instead of supporting R&D projects alone, the Seoul Metropolitan Government should be involved in and take a leading role in the current ecosystem. Third, policy mix strategy should be adopted to increase the efficacy of related policy, and eventually to better cope with various R&D demands from different stakeholders.

Nurturing Creative Class in Multimedia Industry

The creative class has emerged as an important group of people to drive economic growth, with many working in creative industries such as multimedia. **Nurturing Creative Class in Multimedia Industry** reports on a survey and interviews done with employees in creative multimedia companies, related associations, and civil servants. The report proposes policy strategies to support the industry and attract more from the creative class to Seoul.

Eunjoo Oh · Bum-Sik Kim · Seung-Nam Yu · Ji-Seon Heo

The importance of the creative class has been increasingly recognized in policy practices as well as in academics. The Seoul Metropolitan Government (SMG) has also announced support for the creative class and creative industry. However, despite its significant interest, industry-associated HR (human resource) policy regarding the creative class has yet to be launched.

This study suggests ways for the SMG to support the creative class in the multimedia industry, including broadcasting, animation, and film. In doing so, this study draws on a survey and in-depth interviews with employees, companies, trade associations, and policy practitioners. Preferences for employees with work experience have created high entry barriers to newcomers.

In addition, universities and private training institutions do not contribute to interactions between the creative class and companies.

Moreover, central/local governmental efforts have been inconsistent and narrow in scope.

This study recommends four strategies: building the capacity of the creative class according to its position in the labor market; provision of information access; agglomeration; and a cooperative policy framework of the various actors, from the private and public sectors and from individuals and industries.

A Study on Illegal Money Lending and Crack-down

It is not uncommon to see victims of predatory lending practices in Seoul. A **Study on Illegal Money Lending and Crackdown** estimates that 1 million citizens have borrowed money from these illegal businesses. Protecting people from such a predatory practices falls into the job for the Seoul Metropolitan Government. This study evaluates whether a lending business is predatory or not by estimating the actual interest borrowers have to pay. The report investigates why some decide to use such businesses and why illegal money lending has not been rooted out. Policy recommendations are also suggested.

Hyungho Youn · Jieyeoun Lee

Illegal money lending is widespread even though a crackdown on such activity has continued. This type of lending is criticized for its high interest rates, insufficient consumer protection policy, false contracts, and coercive money collection practices. Despite the dangers associated with illegal money lending, many persons accrue debt in this way because they cannot acquire legal loans from a bank.

Illegal moneylenders undoubtedly cause financial damage with the high interest they levy on their loans and threaten borrowers for making late payments or failing to pay at all. The current level of law enforcement is so weak in terms of arresting, indicting, and punishing with jail terms that many illegal lenders continue their business with little fear of consequences.

The Seoul Metropolitan Government has created a special law-enforcement department to crack down effectively on illegal lending. The department runs an intelligence unit that monitors and analyzes lending advertising for illegality, and seeks out large-scale illegal organizations. In addition, the city has established an integrated body that counsels victims of illegal lending through financial documentation and assists them with lawsuits.

A Study on Policies to Promote the Digital Industry in Seoul

The world is becoming more and more connected through the Internet of Things, and Artificial Intelligence: essentially, the 4th Industrial Revolution. A key factor is the development of digital technology. The Seoul Metropolitan Government calls this “Diginomics,” which is a new economic order based on various applications of digital technology. **A Study on Policies to Promote the Digital Industry in Seoul** examines the current status of such development. Policy directions and specific strategies to promote the digital industry in the capital have been devised by researchers at the Seoul Institute.

Bong Choi · Bum-Sik Kim · Kwon-Joong Choh · Mook-Han Kim · Joon-Young Lee

The main theme of the Davos World Economic Forum held in January 2016 was the Fourth Industrial Revolution. This revolution will show us a new world created by innovation through fusion technology including robotics, artificial intelligence (AI), and the Internet of Things (IoT). At the 2016 Consumer Electronics Show (the largest such fair in the world) held at the same time, the most important topic was the field of digital AI technology such as drones, robots and virtual reality. The world being created by the Fourth Industrial Revolution can be called a ‘more intelligent society where everything is connected’. These are integrated systems based on the IoT and AI that connect the virtual and actual worlds, and this revolution will build intelligent cyber-physical systems. Smartization, which appears following informatization and intellectualization, changes cities and activates the digital economy’s ecosystem, with the digital industry used as a core means in the process. In Seoul, as a center for the domestic digital industry, policies are needed that will foster the industry and reflect the flow of the digital age.

The purpose of this study is to present promotional policies that can ensure the competitiveness of Seoul’s digital industry. As the city enters the digital revolution age, a set of roles needs to be established for itself to develop the region’s digital industry. The first role is to lead and support technology by providing the latest

digital information (as a pre-adopter); a digital hub is necessary that will provide information related to the global digital environment to industry participants in Seoul. The second role is to promote and support the city's related capacity (as an accelerator); this means shifting support from a focus on hardware (such as facilities) to platforms. Third, the Seoul Metropolitan Government should support the advancement of digital technology (as a synthesizer). Through convergence of these services and support, it will be possible to facilitate pilot projects through digital transformation. A total of 20 detailed promotion policies are presented in this study towards performance of these roles.



The Determinants of Locational Changes of IT Service Firms in the Seoul Metropolitan Area

Understanding the factors behind locations chosen by companies is important in regional economies. According to the study, **The Determinants of Locational Changes of IT Service Firms in the Seoul Metropolitan Area**, IT service firms have been moving out of Seoul, a trend most obvious within the gaming industry. This report answers several natural questions: What drives these firms to relocate outside of Seoul? How can they be persuaded to return? What can the Seoul Metropolitan Government do to prevent further relocation? Or is it even possible to do so?

Mook Han Kim · Bum Sik Kim · Min Young Hwang

Recently, the relocation of firms in the IT services sector—especially in the gaming industry—in Seoul, South Korea to the metropolitan areas outside of Seoul has become a clear trend. For example, 7 of 10 top firms in the gaming industry had moved to Pangyo Techno Valley, Seongnam City, Gyeonggi Province, by 2014. This necessitates countermeasures, after an appropriate analysis, in relation to the alarming outflow of IT service firms from Seoul, which is the aim of this study.

The IT service firms in the Seoul Metropolitan Area tend to be located in a few IT clusters, including Gangnam-*Gu*, Seocho-*Gu*, Guro-*Gu*, and Geumcheon-*Gu* districts in Seoul and Bundang-*Gu* in Seongnam City. Bundang-*Gu* is home to Pangyo Techno Valley, which is the second largest IT cluster in the Seoul Metropolitan Area. The growth rate of Bundang-*Gu* district in terms of IT service establishments and employment are the highest of the major IT clusters in the Seoul Metropolitan Area.

Three of these major IT clusters—G-Valley, Teheran Valley, and Pangyo Techno Valley—have their own particular characteristics. G-Valley is the biggest and most mature in terms of IT services and the gaming industry in Seoul. Teheran Valley is building a booming start-up ecosystem, while Pangyo Techno Valley has become an emerging IT cluster that revolves around key anchor firms in the gaming industry.

A survey of firms in Pangyo Techno Valley revealed that 53.9% of respondents had relocated from outside, with almost half from Gangnam-*Gu* and Seocho-*Gu* in Seoul. Although most of the firms in Pangyo Techno Valley were satisfied with their current location, they also showed a strong liking of the IT clusters in Seoul.

In short, Teheran Valley is in the process of building a strong start-up ecosystem, whereas G-Valley still enjoys the advantages of being a mature cluster for both IT and manufacturing industries. Since it is ineffective and expensive for Seoul to reverse this relocation trend, we suggest that the Seoul Metropolitan Government give credits to Pangyo Techno Valley as an emerging IT and gaming cluster and endeavor to find ways to collaborate with it and other IT clusters in the Seoul Metropolitan Area.



A Guideline for Writing an Application Form of the Seoul Investment Appraisal System

Prior to implementation, publicly-funded projects need to go through a complex process which is becoming more and more complicated. It is always a challenge to write a workable application for such projects. Moreover, the national government tends to constantly raise the bar before approving projects proposed by local governments. The Seoul Public Investment Management Service Center, an internal organization at the Seoul Institute, is charged with reviewing and evaluating private finance initiative (PFI) projects driven by the Seoul Metropolitan Government. The Center develops **A Guideline for Writing an Application Form of the Seoul Investment Appraisal System** to help civil servants who need to write proposals for projects to receive public funding.

Young-Min Park

As the demand for administration is diverse, public investment projects have become increasingly complex and specialized. To reduce the workload of the persons in charge at the stage of planning and investment appraisal, there is an urgent need to strengthen professionalism.

Since implementation of a poorly-planned investment project can result in loss of the initial investment and enormous financial losses during operation, work efficiency needs to be improved and insolvency prevented at the planning stage.

This study provides guidelines on the overall method of filling out application forms for the Seoul Investment Appraisal System, as a way to help reduce workloads and improve efficiency.

In the first two chapters, the characteristics of the public investment project and the Seoul Investment Appraisal System are examined. In Chapter 3, we introduce the composition of the application form and its categories, as well as provide instructions on completing the form, described for each category, including examples that can enhance understanding it. In Chapter 4, specific methods and examples for each part and a list of references are provided.

An error list and major checklist are provided in six parts (General Administration & Industry, General Administration & Industry, Culture & Sports, Health & Welfare, Transportation, and Environment).

Enhancing the Competitiveness of ‘Innovative Small-and Medium-sized Enterprises (SMEs)’

Innovative Small- and Medium-sized Enterprise (SME) develops innovative services, products and ideas. Innovative SMEs themselves are economic growth engines. They can also expand the industrial ecosystem in Seoul. Thus, the Seoul Metropolitan Government has great interest in supporting their potential. **Enhancing the Competitiveness of ‘Innovative Small and Medium-sized Enterprise (SME)**, examines how public policy can help to identify and support these innovative SMEs in Seoul.

Eunjoo Oh·Seunghoon Oh·Seungnam Yu

The importance of innovative small and medium-sized enterprises (SMEs) during the 4th Industrial Revolution to Seoul’s economy cannot be emphasized enough, particularly in light of the city serving as the nation’s incubator. However, despite its significant interest, policy for innovative SMEs has been overshadowed by SME governance policy such as fair-trade between large and small firms and support for vulnerable SMEs.

This study identifies innovative SMEs as venture businesses and inno-biz as certified by the central government. Based on an analysis of R&D input, cooperative behavior such as external co-op R&D and informational networks, and technical & economic output, this study finds that actively-engaged innovative SMEs perform better in technical and economic outcomes than their non-innovative counterparts.

In addition to this superiority, this study reports on the internal differences within innovative SMEs in terms of their strategies and obstacles. A firm that failed in its attempts during the last three years had an information network with the industrial sector, and mostly ignored research institutes. It is noteworthy that the reported barrier to innovation for this failed firm was internal capacity rather than financial difficulties. This study reveals that policy support needs to be suited for each stage of a firm’s lifecycle. An early-stage firm needs significant networking with external resources and organizations.

Taken together, we present a customized policy frame for innovative SMEs.

A Study of Development Plan for the Management System of Public Investment Projects of Seoul

The Seoul Public Investment Management Service Center is an internal organization at the Seoul Institute established in 2012. It is charged with reviewing and evaluating private finance initiative (PFI) projects driven by the Seoul Metropolitan Government. The center mainly conducts cost-benefit analysis to see if a publicly-funded project can provide sufficient benefit for citizens of Seoul. **A Study of Development Plan for the Management System of Public Investment Projects of Seoul** proposes ways to improve the process for implementing publicly-funded projects and projects with concession agreements. Additionally, this study looks at how the Center can contribute to that goal.

Jae-Hong Joo · Hyung-Ho Youn · Sang-Mi Woo · Dong-In Ban · Byung-Su Kim · Hyo-Sub Sim

The Seoul Metropolitan Government (SMG) is seeking to build and improve its public investment management system. An investment appraisal system was introduced in 1992 for local governments, and involves assessment and feasibility of project necessity before developing the related budget. In addition, the Seoul Public Investment Management Service (S-PIMs) was established in 2012 and provides investment advice, feasibility studies, validation of feasibility studies by other entities, and other services that London's Private Finance Investment (PFI) program provides.

The purpose of this study is to diagnose performance of and problems in Seoul's public investment management system over the past five years and to suggest future development plans. It can be divided into three parts. The first examines issues and problems through statistics, surveys, literature review, etc. The second part looks at performance and problems in fiscal finance investment and private finance investment of public funds. Finally, we suggest a development plan for each based on the results of our study of performance and problems, including thoughts about development of S-PIMs.

Ways to Improve the Performance of Seoul Logistics Center

After a product is produced, it has to follow a distribution chain to get to consumers. Going through these distribution chains tends to increase the prices of goods and thus reduce the profits for small businesses such as supermarkets. As the major cost in distribution is logistics, reducing these costs can help small businesses. With financial assistance from the national government, the Seoul Metropolitan Government set up the Seoul Logistics Center (SLC) to help small businesses reduce these logistics costs. In spite of good intentions, the system is not working well, and few local grocery stores and supermarkets have bought goods through it. **Ways to Improve the Performance of Seoul Logistics Center** identifies the current issues and problems the SLC faces, and offers policy directions for its future.

Dalho Cho · In Hye Yu

Small grocery stores and supermarkets in Seoul are losing customers to convenience store chains and hypermarkets. Many are driven out of business due to the huge decrease in sales and profits in recent years. The Seoul Logistics Center (SLC) was opened in 2013 to help these small business owners reduce the steps in commodity flows, resulting in lower prices when they buy. Korea's national government and the Seoul Metropolitan Government (SMG) fund the SLC together, with the latter also helping with facility improvement since the establishment of the SLC.

However, the SLC has failed to meet expectations. Less than 4 percent of small grocery stores and supermarkets purchase goods from the SLC because it does not offer suitable commodity bundles at lower prices. In addition, other problems exist that are associated with the way how the SLC manages its business. As a result, it has suffered huge losses every year since its very beginning.

This study seeks to identify the current situation of the SLC and the problems that it faces in the wholesale business and logistics with the ultimate goal of finding appropriate short-, mid-, and long-term strategies. First, we suggest short-term directions towards more sales and profit. Next, we deal with the questions of who is

an appropriate agent to run the SLC and a good location for it. Finally, we recommend that the SLC serve as a wholesaler in a voluntary chain of retailers such as groceries and small supermarkets in the long-run.



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