

2019 RESILIENT SEOUL | A Strategy for Urban Resilience 2019

RESILIENT SEOUL

A Strategy for Urban Resilience 2019



Smart Safe City for All, Seoul





PIONEERED BY THE
ROCKEFELLER FOUNDATION

100 RESILIENT CITIES

CONTENTS

01	Introduction	04
02	Executive Summary	08
03	What is Urban Resilience?	10
04	Introducing Seoul	12
05	Seoul in Context	18
06	Seoul's History of Disasters	20
07	Journey Towards Resilient Seoul	22
08	100RC Network	36
09	Goal 1 Governance- Resilience through Collaboration	38
	Program 1. Safety Governance	
	Program 2. Smart Safety Net	
	Program 3. Climate Change Response System	
	Program 4. Proactive Management for Aging Infrastructure	
	Program 5. Safer Neighborhoods	
10	Goal 2 Community- Stronger and Connected Community	66
	Program 6. Connected Neighborhood for the Vulnerable	
	Program 7. Stable and Affordable Housing for All	
	Program 8. Childbirth and Childcare Service	
	Program 9. Innovative Solutions in Community	
11	Goal 3 Inclusive Growth- Prosperous Seoul for All	80
	Program 10. Youth Welfare and Jobs	
	Program 11. Employment Opportunities for the Elderly	
	Program 12. Microbusiness and the Self-employed	
	Program 13. Respect for Labor	
	Program 14. Expansion of Social Economy	
12	What's Next?	104
13	Acknowledgements	106



MAYOR'S MESSAGE



Park Won Soon
Mayor of Seoul

More than half of the world's population resides in urban areas. Not limited to just people, major infrastructure, including the economy, culture, transportation, education, and health, are also densely located in cities. Thus, strategic disaster risk reduction and response measures to adverse events are imperative. Due to the impacts of climate change, the characteristics of disasters have become more uncertain and extensive in scale. More than any other time in history, we need a paradigm shift in disaster preparedness.

The Sendai Framework, adopted at the Third UN World Conference on Disaster Risk Reduction, recognizes the need for improved understanding of disaster risk, the strengthening of disaster risk governance, and the mobilization of risk-sensitive investment as a way of reducing disaster risk, and articulates regional resilience and enhancing support for the vulnerable.

Seoul is a leading city that has addressed various urban problems stemming from rapid industrialization and urbanization. Yet, we still encounter safety challenges from climate change and aging infrastructure.

Placing citizens' safety at the heart of our policy, Seoul is committed to building resilience that can prevent

natural and social disasters and foster the capacity to recover quickly in times of crisis. In 2013, Seoul took part in the Making Cities Resilient campaign of the UNISDR. Also, we have been building resilience strategies since 2016, and the Deputy Mayor of Safety Management was designated as the Chief Resilience Officer of Seoul when Seoul was announced as one of the 100 Resilience Cities pioneered by the Rockefeller Foundation. Now we proudly present Resilient Seoul, which was built through extensive discussions with Seoulites and global partnership with cities around the world.

Resilient Seoul will prepare all Seoulites for urban challenges and ensure they have a safe and thriving city in the years ahead. To achieve this, both the public and private must cooperate in responding to potential threats, and integrated communities need to protect our vulnerable neighbors. Inclusive growth will ensure that every individual will prosper from economic development.

Resilient Seoul is only the beginning. Seoul's blueprint is to take a giant leap toward the future. For only by striving together can we achieve a beautiful, energetic, and resilient city for our citizens.

100RC'S MESSAGE



Michael Berkowitz
President, 100 Resilient Cities

On behalf of the 100 Resilient Cities organization, I wanted to offer congratulations to the City of Seoul, my good friend Mayor Park, and Chief Resilience Officer Kim Hak-Jin on the release of the City's first Urban Resilience Strategy.

Seoul approached this work with the noble desire to make the city safer and to keep its citizens out of harm's way. But as the Resilience and Safety office moved through the strategy process, collaborated with municipal bodies, consulted with communities and partnered with institutions; they came to a more comprehensive view of what it meant to make the city safe. No longer were they focused on solely on physical safety but on economic safety, on social safety, on health, welfare, inclusivity and connectivity. This document lays out a vision for a Smart, Safe City for All that seeks to enhance governance, restore community and promote inclusive growth. Through this vision, your great city has embraced resilience as the key to a safe and secure future for all Seoulites.

This holistic approach to resilience builds on Seoul's tradition of innovating progressive solutions to make the city more livable, healthier and safer. Solutions like Seoulo 7017 – a brilliant way to repurpose outdated infrastructure gave Seoul back a green heart and created a place that brings people together. This visionary strategy includes something for all of Seoul. Drawing on expertise and opportunities from all corners of the city government, it lays out protections for vulnerable workers, makes the city safer for women and mothers, creates opportunity for those over 50, and gives all citizens a louder voice with which to speak to the city government about their needs.

With this roadmap of tangible actions, Seoul is poised to become a world leader in urban resilience. Seoul will carry the urban resilience movement forward with a continued commitment to teaching its neighbors as well as learning from them. As Seoul takes on the challenging work of bringing this vision to life, I invite you all to join the movement and be a part of making this city a smart, safe, welcoming home for all.

CRO'S MESSAGE



Kim Hak-Jin
Chief Resilience Officer, Seoul
Deputy Mayor of Safety Management

Modern society has experienced rapid urbanization, where politics, economy, community, and culture are centered on the urban area. A city with ongoing urbanization is redefined by technology-dependency and systemic complexity, not least by anonymity and rampant individualism.

Just like other metropolises around the globe, Seoul endures the threats and vulnerabilities of modern society. The roads, subways, power lines, water supply, and drainage system are tightly intertwined to sustain the lives of 640,000 buildings across Seoul, in which ten million Seoulites live together.

However, the possibility of large and small accidents and disasters is the other side of the convenient "always-on, always-connected" culture. Seeing marvelous development during its industrialization, Seoul is now endowed with the tasks to address the side effects of rapid urbanization.

The dangerous condition of Seoul's aging infrastructure sheds much-needed light on the potential threat of disasters, and globalization and climate

change are bringing new urban challenges such as earthquakes and particulate matter.

With low fertility rates and an aging population, economic productivity is on the decline, and yet, promoting social safety nets to lift vulnerable groups—including children and the elderly—out of poverty has become our priority.

In light of undertaking the urban challenges we face, Resilient Seoul was developed through the 100RC partnership, a process that involved Seoulites, experts, city government staff members, and private organizations.

It is my pleasure to thank 100 Resilient Cities, as well as the 100RC Singapore regional office, for guiding us in our evolutionary step toward Resilient Seoul.

As Chief Resilience Officer, I look forward to seeing Seoul become a more flexible, inclusive city well-prepared against disasters to build resilience now and in the future.

EXECUTIVE SUMMARY



Oil Tank Culture Park

Once abandoned Oil Depot Base was reborn as an environment-friendly cultural facility.

Resilient Seoul was derived from a question: “What are the ways we can ensure the physical, social, and economic stability and safety of our city and its citizens?” The bold initiative we are about to present will answer the inquiry by articulating challenges that are becoming more intertwined and complicated to solve within the City of Seoul, home of ten million Seoulites.

This strategy was constructed through a different approach from Seoul’s existing policies. Accompanied by 100 Resilience Cities (100RC), pioneered by the Rockefeller Foundation, Resilient Seoul is the culmination of work with cities around the globe that have similar urban challenges and best practices for overcoming the problems. Resilient Seoul lays the groundwork for collective action, giving a voice to diverse stakeholders—across city departments, private organizations, and citizens—throughout the entire process. The value in building resilience was our utmost priority, from which the challenges of the city, the diagnoses, as well as solutions were strategized accordingly.

Seoul has accomplished economic development unprecedented in world history, yet the current situation we face does not look good. The economy has entered a new slowdown, and changes in the natural and social environment are escalating new conflicts within the city.

The shocks and stresses that Seoul is faced with range from economic concerns such as a recession or spiking unemployment rates to the record-high fine dust level that recently struck people.

We hope to see a Seoul in which all Seoulites will thrive and be safe from diverse urban threats. Recognizing the importance of public-private partnerships in tackling newly emerging challenges, the city is committed to working across all departments and partners. We will also pursue system-wide efforts to restore the community spirit, leaving no Seoulite behind by building more connected neighborhoods. To ensure that this happens, equitable and sustainable economic growth must be encouraged as resilient Seoul brings prosperity to its people.

Vision-Smart Safe City for All, Seoul

GOAL 1

Governance: Resilience through Collaboration

Direction

Risk recognition
Proactive management
Cleaner air
Integrated solutions

Challenge

Lack of understanding of risks
Siloed approaches
Embracing new technologies

Program 1

Safety Governance

Improve safety information and early response system

Streamline report system for a better disaster responsiveness using smart technology.

Expand citizen-led safety platform

Place citizens at the core in facilitating safety-related policies and budgeting process, and continuously monitor the follow-up management.

Program 2

Smart Safety Net

Create a big-data driven smart safe city

The smart technology based Data Center and Big-data Storage for the public data will enhance citizens' access to the integrated city data.

Build smart CCTV network for the safety of civilians

AI-embedded CCTVs will be directly incorporated with the Smart Seoul CCTV Safety Center to prevent and detect all types of crimes and disasters 24/7.

Program 3

Climate Change Response System

Mitigate greenhouse gas emissions

Reach the target of the Paris Agreement to lower greenhouse gas emissions and transform into a hub of green energy.

Reduce fine dust

Secure Seoulites' right to breathe clean air under the three principles: mitigation, public health, governance

Program 4

Proactive Management for Aging Infrastructure

Forecast aging infrastructure and integrate safety management system

Separately managed underground facilities will be controlled by the City and evaluated through a big-data analysis.

Strengthen real-time monitoring system for infrastructure

Facilities will be linked to the Real-time Monitoring Center to enhance the disaster preparedness in times of crisis.

Program 5

Safer Neighborhoods

Promote crime prevention through environmental design (CPTED)

Lower the cost in addressing social problems and provide residents more access in discussing local challenges.

Build safer neighborhoods for women

Design initiatives to end violence against women and create safer environment for women.

Program 6

Connected Neighborhood for the Vulnerable

Strengthen social safety net in all neighborhoods

Any policy blind spot will be eliminated by fostering care service led by residents for our vulnerable neighbors who are at the heart of welfare service.

Program 7

Stable Housing for the Vulnerable

Expand housing support for the vulnerable populations

Affordable and safe housing will be provided to encourage independence and social integration of the housing marginalized.

Enable citizen-customized housing welfare

Marginalized neighborhoods will benefit from the housing regeneration project led by resident-community.

Program 8

Childbirth and Childcare Service

Expand public preschools

Increase social responsibility and emphasize the role of nurturing infants and children who most need the care services within each district.

Broaden childbirth and child-care support

Implement social and structural supports before, during, and after childbirth and facilitate services for low-income and high-risks mothers and infants to address low-fertility crisis.

Program 9

Innovative Solutions in Community

Operate "Local Labs" to foster innovative solutions

Discuss regional problems in partnership with residents, civil servants, experts, and regional businesses and draw joint solutions.

Boost PPPs for the sharing economy

Diverge from public-focused sharing policies towards private-involved sharing culture to boost partnerships among various stakeholders.

GOAL 2

Community: Stronger and Connected Community

Direction

No more policy blind spots
Community integration
Warm caring city for the vulnerable
Social cohesion

Challenge

Demographic and family structural changes
Inter-generational conflicts
Disconnected communities

A Strategy for Urban Resilience 2019

GOAL 3

Inclusive Growth: Prosperous Seoul for All

Direction

Resilient growth
Inclusive and equitable city
More opportunities for the vulnerable

Challenge

Disparity
Unfair employment opportunities

Program 10

Youth Welfare and Jobs

Realize Seoul-specific youth welfare system

Strengthen welfare system specifically for the resilience of youth.

Develop New Deal Job to create private job opportunities

Connect youth and excellent enterprises for high-quality job opportunities.

Program 11

Employment Opportunities for the Elderly

Expand more opportunities for the Elderly

For the middle-aged and elderly who are already retired but still willing to contribute to the economy, reemployment options will be available.

Program 12

Microbusiness and the Self-employed

Widen the social safety net for microbusinesses

Microbusinesses will enjoy sustainable business environment.

Encourage using Zero-Pay

Reduced commission fees for all affiliated stores of Zero-Pay will lower burdens for the consumers and the stores.

Program 13

Respect for Labor

Guarantee the rights of vulnerable workers

Create a labor environment where all workers' efforts will be paid off.

Program 14

Expansion of Social Economy

Support Social Enterprises and Cooperatives

Expand the scope of Social Impact Bond project and promote youth participation to social issues.

What is Urban Resilience?

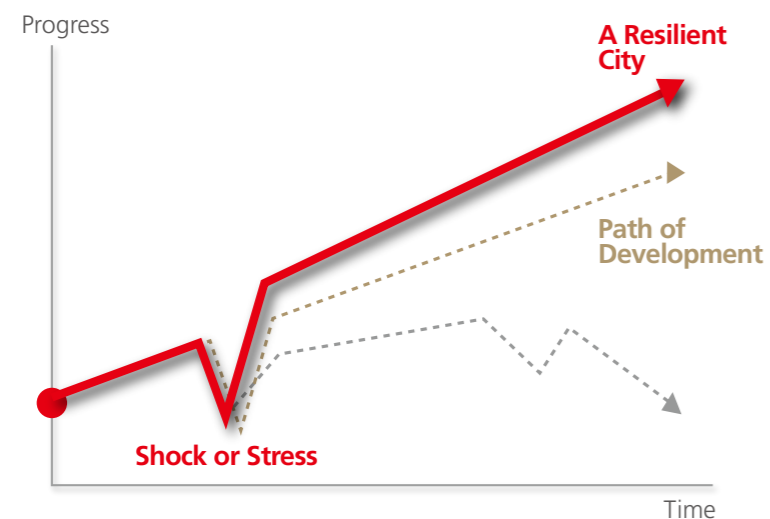
The core challenge from the urban resilience context can be explained in two categories. First is the problem that arises persistently and affects the citizens for the longer-term; for example, economic downturns, unemployment, and demographic changes such as low fertility and aging. Challenges that continue over a long period of time are defined as chronic stresses.

On the other hand, sharp events that are sudden and unexpected, including natural disasters -storms, heavy rainfalls, heat waves, earthquakes, and fires- and the collapse of infrastructure facilities are referred to as acute shocks.

The impact of these shocks and stresses range from causing inconveniences to threatening lives. The implications may cast a dim outlook on not just individual citizens but to communities and even the City in its entirety. The priority and severity of shocks and stresses can be perceived differently depending on the conditions of the city and its people. Once thought to affect certain groups of people, fine dust has now become a critical determinant of our health and survival.

Urban resilience is the capability of all entities within a city, including individuals, communities, institutions, and businesses, to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience. In a resilient city, all the entities can quickly go back to the normal condition or even be better in the face of challenges. Its level of resilience determines how the city can withstand and emerge stronger from the impact of the crises.

By investing in initiatives and projects that anticipate, respond, and recover the risks of damage caused by the physical, social, and economic problem, a city builds its resilience, and its competitiveness is enhanced. Furthermore, a forward-looking and integrated decision of the city will provide a tremendous amount of benefit to its people.



Seoul Botanic Park
The first urban-style botanic garden of Seoul.

What is Urban resilience?

100 Resilient Cities (100RC), founded by the Rockefeller Foundation, launched a project to help cities around the world become more resilient to the physical, social, and economic challenges. Over the course of six years since 2013, one-hundred cities around the world have been selected to address shocks and stresses by building up their resilience. In 2016, Seoul was announced as one of the global 100 cities and has been developing its Resilience Strategy since then.

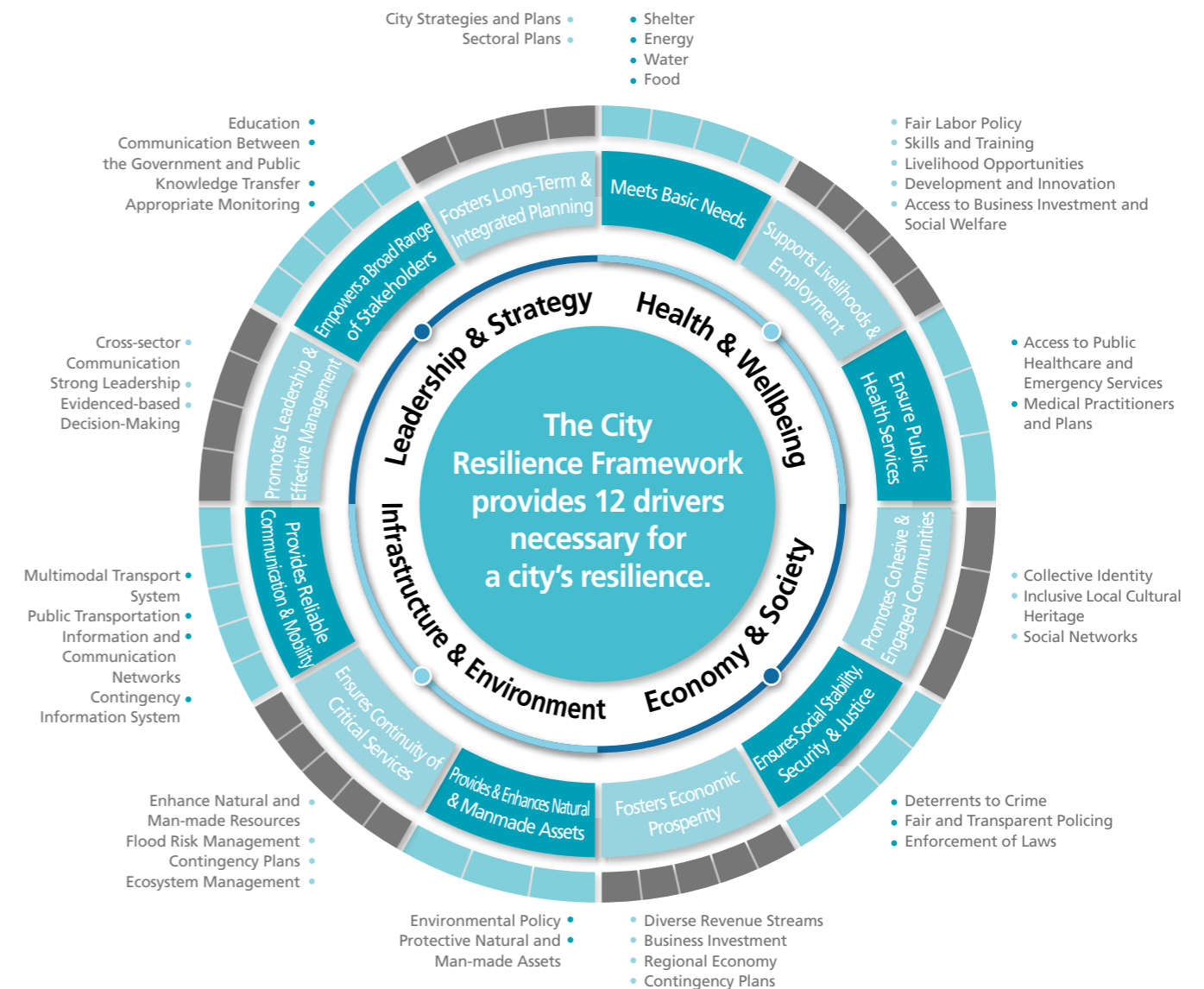
The City Resilience Framework (CRF), developed by Arup and The Rockefeller Foundation, provides a methodology to understand the complexity of a city and confront the

challenges and opportunities. Within the framework, the essential system of a city consists of four dimensions which are identified by 12 drivers and 50 dimensions across the areas of 1) Health and Wellbeing for livelihoods of people 2) Economy and Society to foster prosperity and growth, 3) Infrastructure and Environment that provides reliable mobility and critical services, and 4) Leadership and Strategy for effective decision making among a broad range of stakeholders. Therefore, it is noticeable that shocks and stresses are not limited to just physical disasters but also a myriad of matters from individuals' mental stability to social cohesion, and even economic concerns within the community where citizens interact with each other.



Deoksugung Palace

One of five royal palaces remained in Seoul. The name means "Palace of virtue and longevity."



Introducing Seoul

Located in the central part of the Korean Peninsula where the Han River flows, Seoul has served as the capital for over 600 years and boasts a rich culture and fascinating history of more than 2000 years. As the most populous city of Korea, with an area of 605 square kilometers and an estimated population of more than ten million residents, Seoul is strategically positioned along the Han River and surrounded by a mountainous landscape.



Gyeongbokgung Palace

The first and the largest of the royal palaces built during the Joseon Dynasty.

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100 RESILIENT CITIES

As a rising global city, located in the center of Northeast Asia near Tokyo, Beijing, Hong Kong, and Singapore, Seoul is one of the most thriving cities in the world – over the past six decades, its population quintupled and its GDP increased by 330 times. Its unprecedented economic growth underlined its emergence from the ashes of the Korean War and its transformation into the world's 4th largest metropolitan economy in 2014.

Referred to as a source of growth and a financial hub, Seoul was ranked 15th in the list of "Overall 2025 City Competitiveness" by the Economist Intelligent Unit in 2013. For the six consecutive years, Seoul ranked sixth in the Global Power City Index since 2012.

As a magnet of opportunity for businesses and finance, Seoul produced 22% of Korea's GDP as of 2014, and its economy is considered diversified and robust. Seoul is the hotspot of international gatherings to bring individuals from around the world, encouraging their participation.

the 1986 10th
Asian Games

the 1988 24th
Seoul Olympics

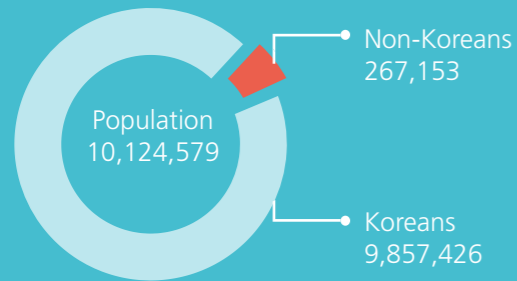
the 2002 17th
FIFA World Cup

the 2010 5th G20
Seoul Summit

Seoul in Context

Statistics of Seoul (as of 2017)

1. Population



2. Population Density

16,728 people per km²



3. Area

605.23km²
(25 districts, 467 community centers)



4. Median age: **41.6** years

(youth ↓, elderly ↑)

5. Employment Status



6. Average life expectancy

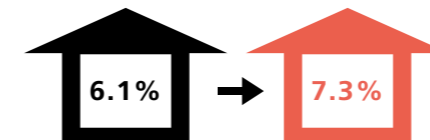


RESILIENT SEOUL

7. General Index (2013 → 2017)

- Medical care facility for every 100,000 people: 155.2 → 169.3 units
- Public childcare center: 867 → 1,691 units

- Public rental housing rate



- Jobs created: 246,074 → 344,991

- Public library: 134 → 155 units

- Foreign visitors: 9.85 million people → 10.51 million people



- Women registered for Safety Scout service: 31,587 → 322,704



- Area of public sports facility per 1 citizen: 1.25m² → 1.36m²

- Share of social welfare budget



8. Income per capita

20,814,000 KRW (2016)

9. Gross Regional Domestic Product (GRDP)

357 trillion KRW

10. Production of renewable energy:

238,239 TOE (2013) → 316,806 TOE (2016)



Seoul's History of Disasters

90s

- **Oct. 1994** **Collapse of Seongsu Bridge**
32 deaths
- **Dec. 1994** **Ah-Hyeon gas explosion**
Inattentiveness
- **Jun. 1995** **Collapse of Sampoong Department Store**
502 deaths

After 2000

- **Sept. 2010** **Flooding in Gwanghwamun**
Unprecedented flood caused by heavy rainfall
- **Jul. 2011** **Landslides on Mt. Woo-myun**
Climate change-induced disaster → 16 deaths, 50 injured (112mm of rainfall, max. 447mm per day)
- **Feb. 2014** **Suicide of a family in poverty**
A mother and her two daughters suffering from financial hardships committed suicide
- **May 2015** **MERS outbreak**
38 deaths, 186 infected (fatality rate: 20%)
- **Feb. 2016** **Corrosion of tendons in the Jeongneungcheon Overpass**
New types accident from aging bridges
- **May 2016** **Murder at Gangnam Station**
Misogynistic violence, mental disorder problem, vulnerability of unisex public bathrooms
- **May 2016** **Death of subway workers at Guui Station**
Outsourcing of dangerous tasks
- **Jan. 2018** **Arson at a motel in Jongno**
6 deaths, 4 injured
- **Nov. 2018** **Collapse of KT Communications network**
Network access temporarily paralyzed
- **Dec. 2018** **Ruptured underground heat pipe in Mok-dong**
Aging infrastructure; leakage caused by corrosion, leaving 1,822 households without heat or hot water

After 2010

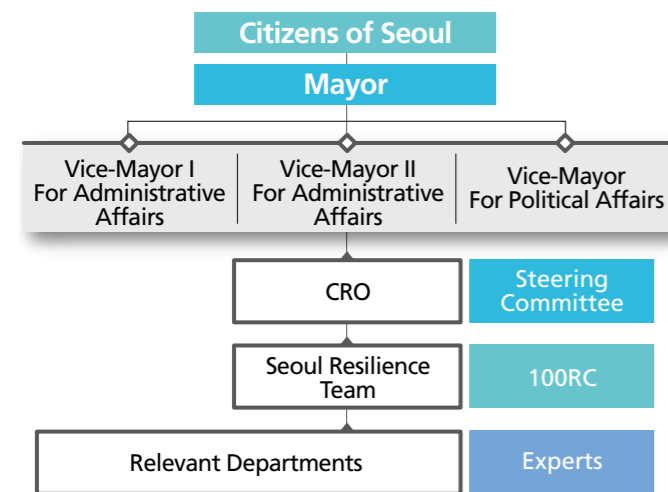
- **Sunken road**
Since 2010, due to aging underground facility, a total of 4,865 cases of sunken roads occurred until 2016
- **Lonely deaths**
Increase in lonely deaths among single-person households
- **Feb. 2019** **Fine dust level reaching the "worst"**
Fine dust levels soar to "Worst" level for 7 consecutive days
11 days(2015) → 13 days(2016) → 20 days(2017)
- **Scorching heatwaves**
Heatwave caused record deaths



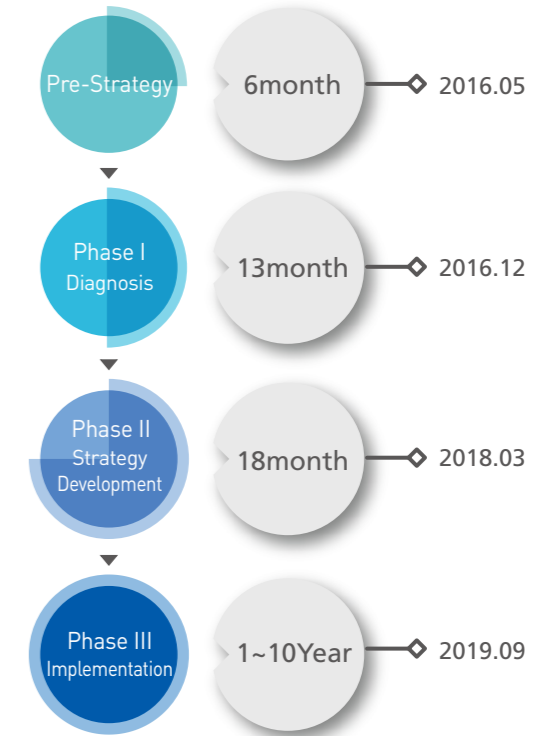
Journey Towards Resilient Seoul

After being selected as a part of the 100 Resilient Cities by the Rockefeller Foundation in 2016, Seoul has embarked on developing the Seoul Resilience Strategy. Out of diverse shocks and stresses that Seoul is faced with, selecting major areas through resilience lens was not an easy task. We needed a chief of staff to control this project across a variety of departments within the Seoul Metropolitan Government. According to the 100RC's operation tools, Seoul designated the Chief Resilience Officer (CRO) who would lead the Seoul Resilience Team to assemble multiple stakeholders to lead the city's resilience efforts.

The stakeholders in the city network are essential assets that invigorate Seoul's resilience. In line with the resilience efforts, we organized the Resilience Steering Committee to guide us through our way towards Seoul's resilience. Nearly all stakeholders at every level from private organizations came together in cross-cutting working groups to discuss and develop new initiatives for Resilient Seoul. Lastly, we were able to form the Seoul Resilience Team to assist the CRO and to leverage our strength to chart hands-on resilience solutions for Seoulites. The final decision-making authorities are the Mayor, the Vice-Mayor, and the CRO of Seoul. The CRO, assisted by the Seoul Resilience Team, is responsible for decision making, restoring resilience, funding, and administrative work. The layout below presents the system for Seoul's resilience journey.



Resilient Planning Development Process



The Strategy development process is set up according to the 100RC guidance and the City Resilience Framework to enhance a city's ability to be resilient in the face of adversity. The strategy process is composed of three life cycle phases, which begins with the Initiation, followed by the Strategy Development Process, and finally the implementation.

For the Strategy Development, we diagnosed Seoul's shocks and stresses and evaluated its strengths, weaknesses, and potential opportunities. Through this procedure, we were able to draw the major challenges that we need to delve more deeply into the resilience perspectives. The step was prepared in two parts.

As a first step of the resilience building process, we identified where Seoul stands in terms of the urban resilience. Started in January 2017 along with the formation of the Seoul Resilience Team, this course of action took about a year until the release of Preliminary Resilience Assessment in January 2018. For Phase I, we brought together voices of Seoulites through Citizen Forum, Foreign Citizen Forum, Civil Complaint Analysis, 100RC Agenda Setting Workshop, Citizen Questionnaire Survey, Public Contest Policy Proposal, and diverse channels to understand the background knowledge on location, environment, and history, and to analyze shocks and stresses that Seoul faces.

07 Journey Towards Resilient Seoul

Resilient Planning Development Process

1_ Listening to Seoulites' Voice

- **Citizen Forum** (DEC 2016) 200 safety experts, citizens.



- **Foreign Citizen Forum** (DEC 2016) Seoulites including non-Korean residents.



- **Civil Complaint Analysis** (2015-2016) Based on 20,000 complaints filed
- **Citizen Questionnaire Survey** (JAN-FEB 2017)
- **Public Contest Policy Proposal** (NOV 2016- JAN 2017)
- **100RC Agenda Setting Workshop** (FEB 2017) Attended by 500 people including 100RC, experts, civil servants, Seoulites.



- **PRA Report** (JAN 2018)



- **SOW & DA Report** (JUN 2018)



Phase II began in March 2018, for the purpose of discovering Seoul's Resilience Strategy and designing our Resilience Plan. Based on the outcomes of Phase I, we were able to examine Seoul's overall resilience, followed by a deep analysis of vulnerable areas and the process of identifying Discovery Areas for Strategy Development Process of Seoul.

After the Discovery Areas had been finalized, the working-level group was formed to suggest a new approach for enhancing the resilience of Seoul. In-depth

studies were conducted in working-level meetings, Steering Committee workshops, and advisory meetings. Through these gatherings, diagnostic questions were identified and the areas of policy which needed to be reviewed were discovered. We explored the areas that need our closer attention by discovering diagnostic questions and reviewing the current state of Seoul's policies to help us shape our vision for Resilient Seoul. Centered on the resilience value, this process coped with diverse areas, on which our Resilience Vision and Hierarchy were built.

- **Seoul Resilience Working Level Team formed** (JUN 2018)
- **Consultation and Strategy developed** (AUG-DEC 2018)



- **Steering Committee workshops** (OCT 2018 & FEB 2019)

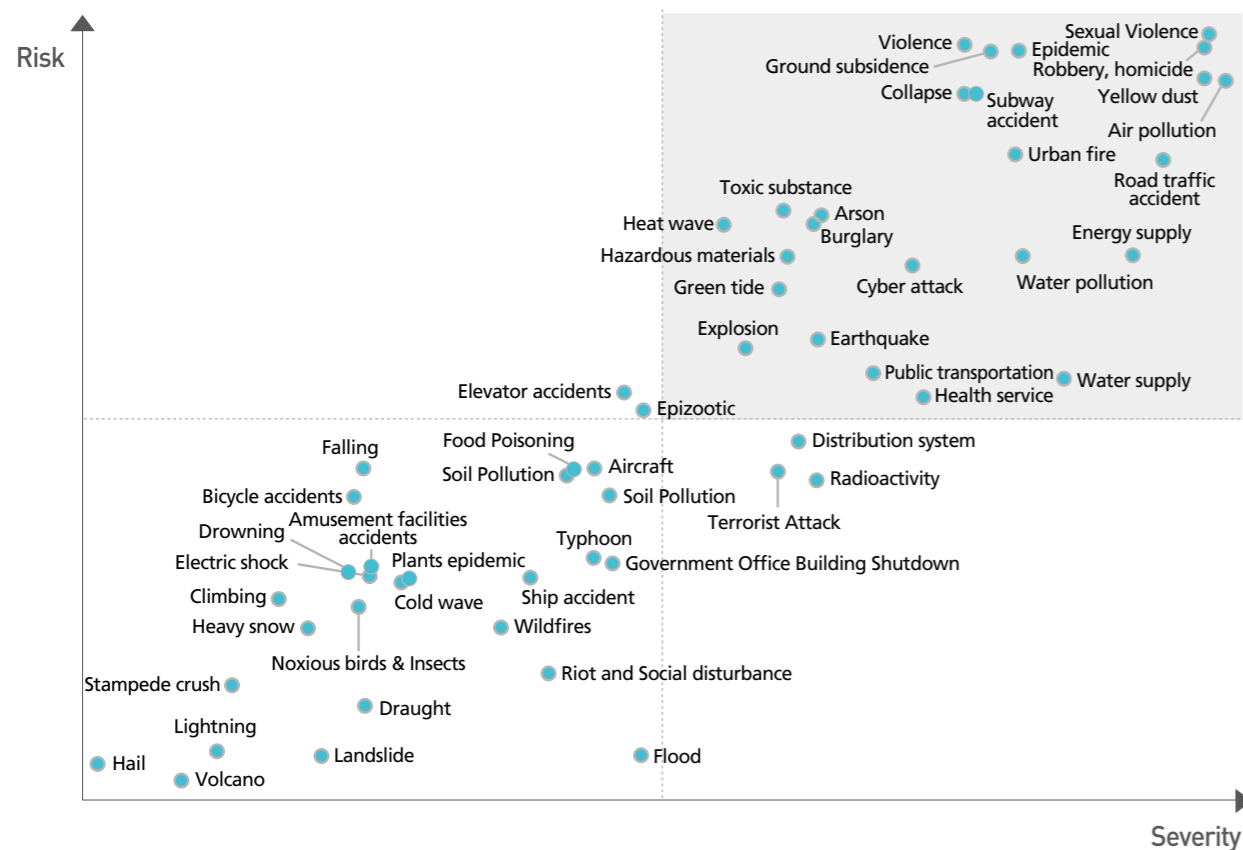


07 Journey Towards Resilient Seoul

2_ Identifying Seoul's Shocks and Stresses

We identified and selected major shocks and stresses from the diagnosis in Phase I through the voices of civil servants, experts, and the Resilience Steering Committee from workshops, forums, and surveys attended by various stakeholders. Evaluating what we have heard from Seoulites allowed us to take instrumental approaches to building urban resilience. Through the course of reflecting people's ideas, we

came across a wide range of urban concerns in both gravity and severity. Selected urgent threats that are high in both risk and priority include crimes – sexual violence, robbery, violence, homicide - air pollution and fine dust, epidemics, building collapses, fires, subway accidents, and cyber-attacks. Seoulites are more sensitive about social issues that are connected to their daily lives.



▲ The graph shows how people perceive types of emergency by the level of risk and importance

Besides the survey, open dialogues on the urban threats took place. About 20,000 civil complaints filed through the Seoul Proposal Integrated Services "Eungdapso" were analyzed to prioritize risks and inconveniences felt by Seoulites in their daily lives.

As non-Koreans living in Seoul might have entirely different ways of viewing issues in Seoul, a forum for Seoulites from different countries was launched to identify demands that they have on the City.

Resilient Planning Development Process



▲ Diverse answers were derived from open discussions by non-Korean residents.

We need...



- ...more safety education programs for non-Koreans
- ...to address problems caused from unisex public toilets
- ...stricter rules applied to reckless bus driving
- ...a strong clampdown on driving under influence
- ...stronger enforcement of traffic laws
- ...safer walkways for pedestrians
- ...transparent emergency information to foreigners
- ...more respect for cultural diversity
- ...broader policy to address problems related to the homeless
- ...response measures for sexual harassment
- ...to know whether we are safe from rising tensions with North Korea
- ...more information in diverse languages
- ...to say NO to motorcycles on the walkways

On February 21st, 2017, the Agenda Setting Workshop was held to welcome Mayor Park, 100RC staff, civil servants, experts, relevant private organizations, civil society, and college students to talk about

urban resilience. Attendees at the workshop prioritized Seoul's major shocks and stresses through discussions and consultations.

07 Journey Towards Resilient Seoul

2_ Identifying Seoul's Shocks and Stresses

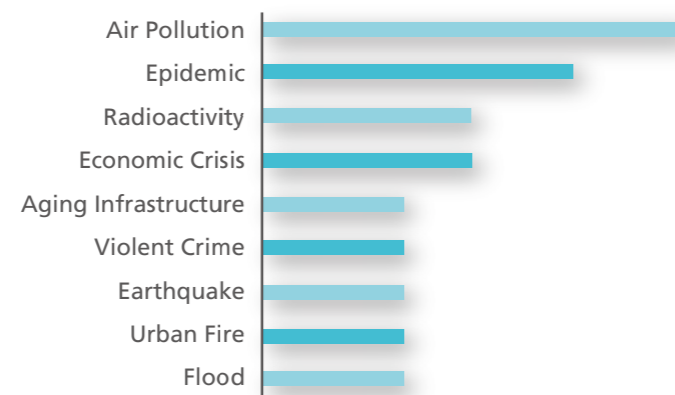
The first aspect that Seoulites highlighted as one of the major shocks is air pollution, as they are especially concerned for fine dust and particulate matter. Seoulites marked air pollution not just as an acute shock but also as one of Seoul's chronic stresses that hamper people's rights to breathe clean air. Following air pollution, pandemics, radiation exposure, economic and financial crises, aging infrastructure, crimes, earthquakes, and other aspects were also selected as Seoul's main shocks. In particular, air pollution, nuclear disasters and radiation exposure caused by earthquakes, and aging infrastructure are all new challenges for Seoul. It is noticeable that these risks are identified predominantly over conventional challenges including car accidents, fires, and storms.

As for the chronic stresses, economic challenges were chosen as the most critical problem. Jobless

rates among youths and seniors are continuously rising. Most job openings are irregular positions, which are less paid and treated unequally than regular workers. The participants also addressed the income disparity between large corporations and SMEs, as well as prevalent income inequality and the widened gap between the rich and the poor.

The aging populations were also listed as the major sources of stress. A young participant mentioned that financially supporting one's own parents is becoming more of a burden for young generations, whereas a senior attendee addressed the limited number of job openings for the elderly. A smaller economically active workforce means less room for growth potential, which requires our actions. Aside from these, corruption and governmental malpractice, climate change, air pollution, and aging infrastructure were also highlighted as major stresses of Seoul.

shocks



stresses



07 Journey Towards Resilient Seoul

3_ Understanding Seoul's Resilience Challenges

Seoul Resilience Team distinguished several challenges against the shocks and the stresses of Seoul in order to build our strengths and define the future of Seoul.

Newly Emerging Urban Threats

Air quality problems represented by fine dust, possible radioactivity leaks from earthquakes, and other threats caused by aging infrastructure and facilities have gained tractions nowadays. What these matters have in common is that both the city government and the private sectors have little experience dealing with them, whereas they are making headlines recently, raising public uncertainties. This calls for proactive measures from the central and the local government. Seoul's persistent and prolonged challenges have evolved with changes in the natural and social environment, creating entirely new challenges.

As climate change engenders extreme weather conditions like heavy downpours, heat waves, cold waves, and temperature anomalies, more and more voices have been raised for climate action. In terms of social issues, Seoul has one of the lowest crime rates

in the modern world; however, the level of anxiety about crime is distinctively high among the socially vulnerable populations including women, children, and elderly. Advanced IT technology speeds up the spread of illegal video content from spy cameras and crimes related to online distribution. Although these challenges have been identified relatively recently, they are evaluated urgent and serious. The city government and the people of Seoul have little experience with newly emerging threats than the conventional urban challenges, thus we need active and promising solutions for the years ahead.

Addressing Economic Inequality

Economic concerns are a major contributor to Seoul's stresses, enough to compete against physical disasters. Going into detail, spiking unemployment rates, scarce affordable housing, social polarization, and inequitable social structure are problems to solve. Seoul has long been pushing forward diverse initiatives in discovering its growth potential, creating more jobs, providing affordable public housing, and securing workers' safety net. However, economic problems being selected as one of the major shocks and stresses of Seoul implies



Resilient Planning Development Process

that the efforts of the City are not fully incorporated into people lives.

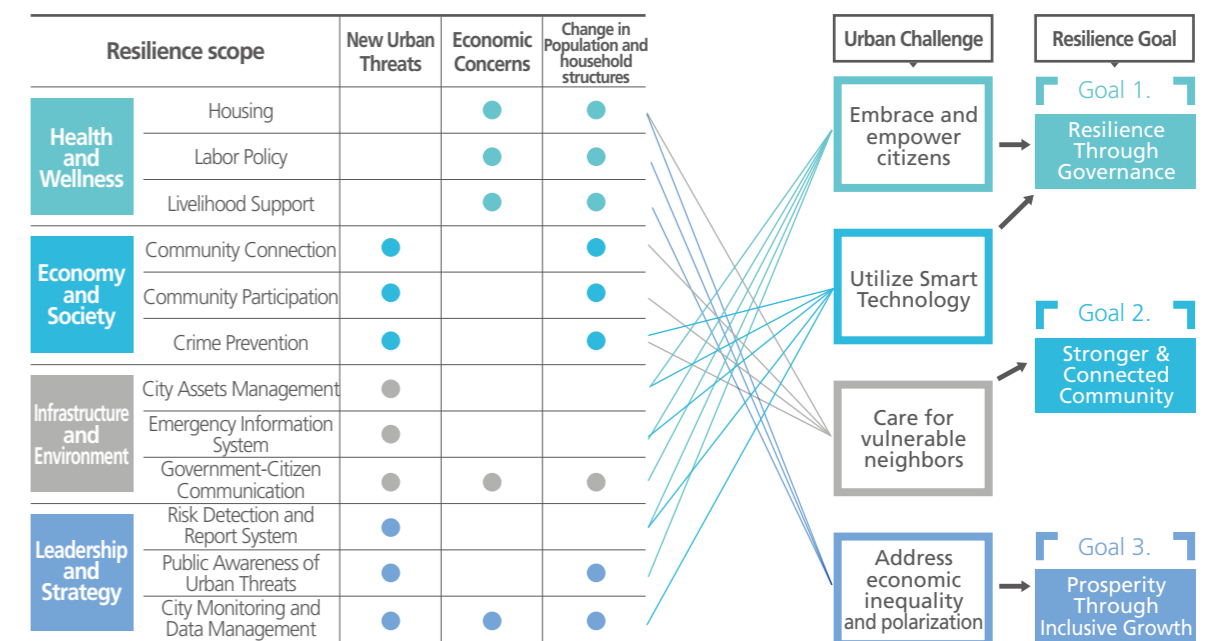
Demographic & Family Structural Changes

Low fertility rates, aging society, and the rise of single-person households demonstrate that Seoul is undergoing a demographic and family structural transformation. Though aging society alone was selected as Seoul's major stresses, we need to bear in mind that demographic and family structural changes are closely linked to crimes, suicide, and other socio-economic inequalities which plague Seoul. Inter-generational tensions arise due to the gap in housing and job opportunities between youth and elderly. Increasingly, social disintegration is aggravated, and the local community is weakened. Joined by the demographic shifts and changes in the family structure, these arise as a new urban dilemma. An increasing number of single woman households and elderly single households are related to crimes against women and lonely deaths, respectively. Seoul is known to be a powerhouse for online interconnectivity, however, person-to-person ties have dwindled, and our neighbors have become potential assailants. If climate change is the key factor in terms of environment,

demographic and family structural changes play a central role in social perspectives. As social disintegration has accelerated, more vulnerable people are pushed further off a cliff. Thus, actions must be drawn to restore local communities that aim to include all marginalized residents and to eliminate any policy blind spots.

Resilience Challenges

The approach through the resilience lens to address Seoul's shocks and stresses will allow us to see innovative solutions and opportunities. Individual problem solving as well as empowering citizens' capacity will also be achieved through this process. Based on the resilience work, Seoul will continue to find ways to adapt to and survive ever-changing urban problems in the longer-term. To approach Seoul's obstacles in the resilience perspective, we utilized the City Resilience Framework by 100RC to identify blind spots in Seoul's current policies. We overviewed Seoul's current policy trends and evaluated its resilience capacity. The chart below lists susceptible areas out of the 50 dimensions of the CRF that need to be improved. The assessment builds upon four main areas to improve that needed to be addressed in defining the future of Seoul.



4_ Meeting Seoul's Key Challenges



1 Embracing and empowering citizens

Over the past years, policies spearheaded by the City were mostly government-led, leaving out civic participation and citizen empowerment. Educating people to swiftly respond in the face of emergency and raising awareness for safety are the most effective way of disaster preparedness. Thus, ICT from the private sectors and their capacity must be appropriately employed in developing a forecast, warning, and report system for the clear delivery of information when a disaster occurs.

2 Utilizing Smart Technology

Smart Technology provides an efficient way of utilizing city's resources based on the analysis of accumulated data using ICT. Smart Technology is gaining much more attention as a new tool to address urban challenges and improve the well-being and quality of people's lives. Seoul has been adopting and applying Smart Technology faster than any other cities in the world. However, a comprehensive plan to integrate almost all city data beyond just public-private partnerships will be crucial. As managing the aging infrastructures and the disaster forecasting system are notable examples of its adoption, we will explore how Smart Technology can be employed in building a more resilient future of Seoul.

3 Caring for vulnerable neighbors within each district

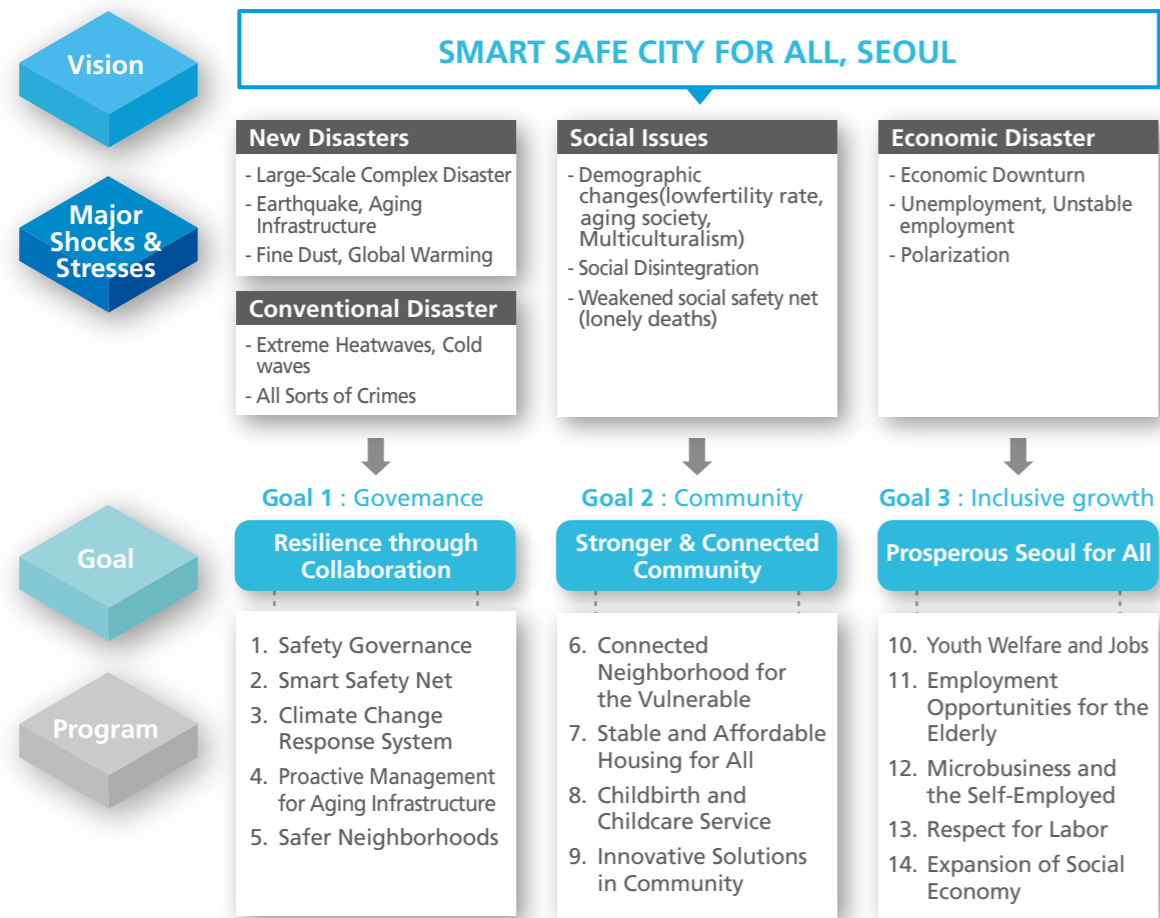
Soaring housing prices have placed enormous burdens on those living in underserved neighborhoods that are more likely to be exposed to unsafe housing environment. With a rising number of single-person households and elderly population, and social disintegration, our social safety net has weakened. Thus, the economically disadvantaged are becoming more susceptible to natural and social threats, indicating that welfare solutions must be embrace more citizens. To address this challenge, Seoul has been providing welfare that covers a wider range of people and focuses more on each individual's circumstances. Not only fostering the government-led welfare system but creating vibrant neighborhoods where residents look after each other is also our goal. We seek to place the people at the center of care service so that all entities within Seoul's neighborhoods will thrive and flourish.

4 Resolving economic inequality and polarization

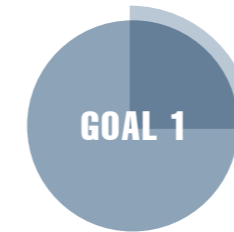
Economic polarization has intensified significantly, and the benefits of economic growth are not fairly distributed for all. Outsourcing and subcontracting out the dangerous tasks left labor workers vulnerable, creating a new term "outsourcing of danger," forcing labor workers to risk their lives. More people demand to change the work culture of 'gapjil,' a word describing the imperious sense of entitlement that authority figures feel over their employees. Establishing a policy to create a discrimination-free society where labor is respected will be needed.

07 Journey Towards Resilient Seoul

5_ Setting Seoul's Resilience Vision & Goal



Resilient Planning Development Process



Governance Resilience through Collaboration.

Based on the clear understanding of risk factors, we aim to provide a comprehensive solution within a collaborative manner among various entities.

In the past, Seoul primarily has been focusing on the aftermath response system. In terms of pre-emptiveness, a guideline for the entire process of prevention-response-recovery will minimize the damage and allow rapid recovery. Employing capabilities of the private sectors and empowering citizens against emergencies to draw Seoul's unique cooperative system are what we drive for.



Community Stronger and Connected Community

We strive for a community-based system where all Seoulites who are in special need have opportunities to receive care services.

Along with the demographic shifts and the change in family structure, heightened inter-generational conflicts and social isolation add to the enduring problems to further threaten community integration. Each community within Seoul's district is a place for residents to build friendship with each other and develop a sense of belonging across the community. By doing so, policy blind spots in government-led welfare initiatives can be eliminated, and sustainable social safety net will be established. By utilizing our tools, Seoul must assert its role to become a warm and caring city for the resilience of vulnerable citizens.



Inclusive growth Prosperous Seoul for All

All citizens have the right to benefit from economic growth and equitable development.

The primary source of frustration in this area is unequal opportunities and inequitable growth. Thus, resilient growth must be the foundation of inclusiveness where people thrive and prosper. With the goal of protecting vulnerable people from urban threats, we will settle an equitable and inclusive economic system to reinforce individuals' resilience.

100RC Network

As part of the global network of 100 Resilience Cities, pioneered by the Rockefeller Foundation, Seoul identified key strategies from the Network cities which have close alignment with actions in this Strategy. We look forward to continuing our links to the 100RC network and sharing best practices for our resilient future.



GOAL 2

Community: Stronger and Connected Community

- Program 6 Connected Neighborhood for the Vulnerable
- Program 7 Stable and Affordable Housing for All
- Program 8 Childbirth and Childcare Service
- Program 9 Innovative Solutions in Community

GOAL 1

Governance: Resilience through Collaboration

- Program 1 Safety Governance
- Program 2 Smart Safety Net
- Program 3 Climate Change Response System
- Program 4 Proactive Management for Aging Infrastructure
- Program 5 Safer Neighborhoods

GOAL 3

Inclusive Growth: Prosperous Seoul for All

- Program 10 Youth Welfare and Jobs
- Program 11 Employment Opportunities for the Elderly
- Program 12 Microbusiness and the Self-employed
- Program 13 Respect for Labor
- Program 14 Expansion of Social Economy

GOAL 1

GOVERNANCE:
Resilience through
Collaboration

Direction

Risk recognition
Proactive management
Cleaner air
Integrated solutions

Challenge

Lack of understanding of risks
Siloed approaches
Embracing new technologies

Outcome

All entities of Seoul will be prepared, aware of disaster-related risks, and ready to cooperate

Goal 1 Governance: Resilience through Collaboration

The Gyeongju earthquake in 2016, the communications blackout from the Ahyeon fire in 2018, as well as the central government issuing emergency anti-dust measures for seven consecutive days in early 2019 showed us that newly emerging disasters will now be our reality. On top of Seoul's common disasters like heat waves, cold waves, and floods, the threat of new types of emergencies including large-scale disasters, earthquakes, aging infrastructure, and climate change reaches every corner of our society. People are more concerned as Seoul does not have much experience of dealing with these new challenges and yet the impacts of these disasters can be catastrophic. Heat waves, cold waves, and other social crimes have frequently occurred since 2017. Therefore, a comprehensive disaster management program is needed from public and private endeavors for prevention, preparedness, response, and recovery.

The Seoul Metropolitan Government has been providing emergency text messages to enhance safety awareness of citizens and monitoring aging infrastructure in case of disasters. Having recognized the need for a comprehensive and flexible emergency response sys-

tem, the SMG established the Seoul Emergency Operations Center in 2002, heralding the introduction of an ICT-based 119 disaster response system.

The following are several ongoing policies related to safety and disaster preparedness. Not only the management of physical infrastructure but also safety education and training programs are one of the ongoing projects of Seoul. For citizens to have access to information in the face of adversity, transparent communication between the city government and the citizens is vital, from which the disclosure of administrative information to the public since 2013 began. Putting people at the heart of our policy, we tried to empower citizens to lead the way in safety management and risk preparedness. Regarding the climate-related crisis, Seoul leveraged our resources to mitigate greenhouse gas emissions and reduce fine dust levels to help citizens feel the resilience dividend of our improved environment in everyday lives. Not as just a short-term plan, but for the people of the next generations, an eco-friendly lifestyle will be embedded in the lives of Seoulites. A set of design principles applied to neighborhoods have discouraged crime significantly, elevating Seoul's reputation and bringing a new look.

Major Initiatives

Open Information Agora

Free Wi-Fi in public buildings

Roof garden project

Eco-mileage system

Solar panel projects

Yellow Carpet project as crime prevention design

Released total of 15 million pieces of city administrative information for public access.

Citizens, visitors, and others are free to use open wifi internet service.

Implemented green rooftops to save rainwater and water resources. Received the prestigious Energy Globe Awards and 2014 Globe Forum.

Since implemented in 2009, 122,000 TOE and 355,000 tons of CO2 have been reduced. Received award from the Economic and Social Council in 2013

Received the C40& Siemens City Climate Leadership Awards in Green Energy in 2014

Painted the pavements leading to crosswalks in school zones in yellow to guide children to avoid car accidents. Won best design prize in the Design for Asia awards in Hong Kong (2014)

The Seoul Metropolitan Government set the direction towards risk recognition, comprehensive problem solving through cooperation and pre-emptive measures for clean air. The challenges that Seoul and its citizens face are lack of understanding of the risks as they are relatively new, silos across relevant departments, and adaptability of new technologies since these new disasters are more driven from advanced technology.

Scaling up the public-private partnership in responding to disasters, Seoul developed five programs: to enhance public-private partnership in disaster preparedness, build a smart safety net, create climate change response system, engage in proactive management for aging infrastructure, and enable safer neighborhoods. When the policies are put into actions, all entities of Seoul will be fully aware of disaster-related risks, prepared, and ready to cooperate. To accomplish our goal, Seoul will strengthen governance structures to prevent, respond, and recover from any large-scale disasters effectively.



PROGRAM 1 Safety Governance

ACTION 1 Improve safety information system and early response system

Period

2018~

Budget (KRW)

36 million



Seoul Safety App

Seoul has been providing Cell Broadcasting Service (CBS) to minimize losses from disasters. Adding up to this service, in 2018, Seoul launched a safety portal that provided real-time disaster & safety information and began “Seoul Safety App” service from which Seoulites are able to gain information about what-to-do and where to turn in a crisis. For example, when an earthquake occurs, breaking news alarms will be instantly sent out with directions to the nearest evacuation center. Without people having to search for instruction, the City transmits emergency information immediately to the citizens, enhancing civil protection. Warnings sent via the smartphone application are indispensable for people during times of emergencies. Such public alert and warning technology will minimize damage and enhance people’s response capabilities.

Smart Video Rescue

In situations where the caller’s inability to adequately ascertain the patient’s condition or provide emergency first aid care could result in serious injury or death, the smart video first-aid instruction involves a 119 consultant giving first aid direction in real-time until an ambulance reaches the site. This not only reduces error in diagnosis by enabling the consultant to see the patient, but also, through proper CPR instruction, significantly contributes to enhancing the quality of on-site first-aid care. Seoul will enable efficient primary measures directly from the EMS agent, and all procedures will be guided through the main monitor of the Seoul Emergency Operations Center. To widely utilize the emergency video calling system, the number of 119 emergency operators and dispatchers will also be increased. That way, a rapid response will be made in various emergencies like fires, facility breakdown, and medical treatment through video information, minimizing people’s damage.

*An emergency call in Korea is 119.

Emergency Safety Call System

Single Number 120 is an integrated complaint handling system that collects inquiries and reports in Seoul. Aligning our resilience perspectives in the people-centered approach, Seoul will create a separate “safety call” page, which will be labeled “priority” to distinguish it from ordinary reports. Through its 24-hour consultations via phone calls, text messages, and social media, people will be able to get instant help they need. Regardless of their location people’s call will immediately be deemed an emergency and directly transferred to the dedicated agency. At the same time, cooperation among relevant organizations for a prompt response will be promised.

Safety e-Petition System, Sinmungo

We witness safety issues and potential threats which can lead to significant accidents. Thus, people should be encouraged to raise safety questions and concerns. By reporting the concerns through Single Number 120, or through the website <http://eungdapso.seoul.go.kr/>, which is also available on a mobile application, people will be involved in the process of building a safer environment. Citizens are often best positioned to identify safety concerns. By following up promptly by relevant City departments on all reports, we can address issues before an emergency occurs. Selected reporters will be rewarded after their cases are reviewed by a safety committee consisting of 4-5 experts and civil servants. The report can vary from at-risk conditions like sunken roads, and aging facilities to any workplace hazards near construction sites, which may have a considerable impact on people. This will further motivate people to be aware of the unsafe environment around them and be proactive in

strengthening safety procedures. By placing people at the heart of our safety policy, we will continue to foster new approaches to enhance the safety experience of Seoulites so they can be determined initiators of Seoul’s policies.

Shocks and stresses	Safety hazards, complicated reporting system, lack of report infrastructure
Resilience goal	Not only preventative measures, but also ways to minimize damage in the face of disaster will be realized.
Department	Safety Management Division, Contingency Response Division, Seoul Emergency Operations Center
Partner(s)	National Fire Service Academy, Seoul Institute of Technology



ACTION 2 Expand citizen-led safety platforms

Period

2018-2023

Budget (KRW)

97.126 billion



Seoul’s participatory budget

Incorporating resilience into the budget system is a way to greater safety governance. The city government must keep an eye on the safety budget as it is at the forefront for a quick and efficient preparedness. Creating policies based on strong investment will ultimately save lives of Seoulites from any disruption.

“Seoul Financial Strategic Committee” will be established to increase civic participation in developing budgetary policy. The committee will be upgraded to the highest level of the decision-making body that introduces a budgeting system with citizen participation. Based on such governance made in the metropolitan and district perspectives, the foundation for cooperation will be expanded to the entire village units at the grassroots.

Citizen Safety Guard

Empowering citizens in the face of disaster is the essence in minimizing the impact on people. Recognizing the need to upgrade

civil preparedness, Seoul will promote the Citizen Safety Guard project to nurture a total of 100,000 safety guards in the next four years. Any Seoulite who went through the Safe Guard training is capable of becoming a Citizen Safety Guard. An inspired Safety Guard will be able to help people with quick CPR, evacuation, and emergency coordination until the ambulance arrives. Preparedness is vital, but an early response can be equally effective, and our neighbors around us can be dedicated safety professionals to help us. Becoming a Citizen Safety Guard requires the completion of eight hours of safety education program by the Fire and Disaster Headquarters of the Seoul Metropolitan Government, which includes two hours of Emergency Decision Making, three hours of Lifesaving Treatment like CPR, and three hours of Standard Disaster Procedures.

About 92,000 people have worked as Citizen Safety Guards, and an additional 10,000 guards will be trained every year by 2022. In the past, only adults were able to participate in this initiative, however, the



age range will be broadened to include high school students. By visiting densely built-up residential areas, not least marginalized neighborhoods, Safety Guards will closely look after residents in special need and help grow connections across the community. By 2022, a safety training center in Dobong-gu will be launched to further activate citizen participatory education and training programs and to create safer and prosperous communities.

Safety Sheriff

Being insensitive to safety rules is another overlooked threat to our safety. To address this concern, Seoul developed a "Safety Watchdog" initiative to manage safety issues within the neighborhood. In order to envision our goal in a more comprehensive and city-wide manner, Seoul will advance this project into "Safety Sheriff," which will operate in all districts and units within Seoul to ensure that residents themselves can lead the plan to inspect and discover risks and to prevent potential safety hazards. Safety Sheriff will consist of about 40 people per each district with a wide range of expertise in disaster and safety management. Safety Sheriff who completed mandatory safety education courses will detect and report common safety hazards easily found around us. By doing so, people will understand the importance of safety awareness near their neighborhood. Safety awareness is a con-

stant realization every resident must always have. By regularly recognizing what is going on around their residential area, people will be able to mitigate disaster-related risks in a much earlier stage.

Early response system against emergency

As mentioned repeatedly, early response and citizens having knowledge about what to do in the face of an emergency is the utmost priority.

Seoul Volunteer Center, along with Citizen Safety Guard Association and volunteer centers in seven districts, have been operating training programs where citizens were given opportunities to experience how to make a quick decision and give first-aid. Participants were highly satisfied with repeated simulation-based learning where they could get hands-on experience in preparedness education.

Also, the earthquake exercise drills with family members, the fine dust facilitator education program, the "Say Hello" campaign, and other activities ensured they can monitor storm and flood preparedness, and check up on traffic safety. These exercises will not be a one-time event but will be held on a regular basis in all 25 districts. Furthermore, an evaluation index to assess the effectiveness of each activity will help develop its sustainability.



Goal 1 Governance: Resilience through Collaboration

Shocks and stresses	Lack of understanding of disaster risks, lack of awareness, lack of education and training tools
Resilience goal	Empower citizens, expand citizen-centered disaster management, resident participatory budget system
Department	Safety Management Division, Fire Administration Division, Safety Support Division, Facility Safety Division
Partner(s)	Seoul Volunteer Center, 25 District Offices

SUPPORTING ACTIONS

Boost International network in urban challenges

Safety measures know no boundary. The scope of safety management goes beyond the capacity of individual cities. Thus, Seoul joined the "Make Cities Resilient" campaign by UNDRR in 2013 to address issues of local governance and urban risks and has been continuously pooling our resources to enhance urban resilience.

In 2016, Seoul was selected as one of the 100 Resilient Cities, pioneered by the Rockefeller Foundation, keeping our relationship with global cities sound.

As the issue of fine dust gets serious, having a strong bond with neighboring countries and cooperation is ever more important nowadays. Thus, Seoul is hosting the International Urban Resilience Forum in September to share best practices and policies related to disaster management, develop agenda reflecting examples of disasters specific to Seoul, and seek solutions to urban challenges for the future.

On top of that, Seoul will also launch the 2019 Seoul Mayors Forum on Climate Change in October to uphold international cooperation to tackle climate change from local governance perspectives.

SUPPORTING ACTIONS

Initiative	Department	Explanation	Period	Budget
Boost International network in urban challenges	Safety Management Division, Environmental Policy Division	Host Seoul International Urban Resilience Forum, 2019 Seoul Mayors Forum on Climate Change	2019~ Long term	150 million KRW



“Seoul’s Golden Time Rule”

People often think they are far from disasters and emergencies. However, disaster is a sudden, calamitous event, bringing great damage, loss, destruction and devastation to life and property. Thus, we need both safe infrastructures as well as an institutional framework to quickly respond to emergencies in saving the affected people.

To realize the goal of safety Seoul in 2016, the Seoul Emergency Operation Center established a Golden Time Rule for each of 55 different types of disasters. The aim of this rule is to promote a general awareness of the importance of “golden hour,” which is a time limit for disaster response that is set to maximize the number of lives saved, prevent the escalation of disasters, and enable more efficient response to various types of disasters.

After analyzing the characteristics of 55 types of disasters, decisions were made within the optimum golden hour for each type. In the event of a fire, for example, the current rule of thumb is that arrival on-site will take five minutes for large complex facilities and three minutes for subway infrastructure. Thus, definitive fire rescue must be initiated within this less-than-ten-minute window. Based on the in-depth evaluation of all 55 types of emergencies, Seoul developed a guideline for initial rescue system and has been providing regular training sessions for people to not only save their own lives but help their neighbors. The program offers essential skills for primary care including performing proper CPR and makes an emergency assessment, and strategies for improving decision-making in emergency preparedness. In the coming year, Seoul aims to have a total of 100,000 Citizen Safety Guards and is offering various in-person disaster training courses for trainees to interact with other learners and seasoned disaster response experts.

The Civil Protection Program for disaster-prone groups and socially vulnerable people is another ongoing initiative by the SMG. Field Trip Chaperone Program that requires a paramedic agent to accompany in field trips or external activities of elementary and special schools has been running since 2014. Over the three-year period, this program performed 2,612 safety procedures for 249 schools by 2016.

Currently, SMG is planning to improve infrastructure for recruiting more Citizen Safety Guards and aims for 91% of fire trucks arriving on the scene within five minutes by 2020.



A Strategy for Urban Resilience 2019

PROGRAM 2 Smart Safety Net

ACTION 1

Create a big-data driven smart safe city

Period

2019-2022

Budget (KRW)

45.98 billion



The Seoul Metropolitan Government has let its citizens utilize 4,915 categories of public data since 2012 and incorporated them into a scientific administration system through big-data analysis of the routes of late night buses and public bicycles and evaluating the prospect of commercial areas. Also, by integrating the LTE data of KT with the public data, public-private data will be provided to analyze the living population of Seoul. Then, urban phenomenon will be stored as data and people will be able to receive tailored information through AI-based technology.

cluding fine dust, noise, light pollution, tremors, temperature, humidity, wind speed, wind direction, and vehicle speed in places like street-lamps, security lights, and community centers. To encourage funding and pool the talents of the best minds of private enterprises that own big-data, a Public-Private model will be formed, led by financial, distribution, and communication companies, academia, and public institutions to implement an innovative framework for data-analysis to improve quality of Seoulites' lives.

Seoul is known for state-of-the-art IT technology. In order to serve up to the standard of the Fourth Industrial Revolution, by 2022, 50,000 sensors will be installed to collect city data in-

cluding fine dust, noise, light pollution, tremors, temperature, humidity, wind speed, wind direction, and vehicle speed in places like street-lamps, security lights, and community centers. To encourage funding and pool the talents of the best minds of private enterprises that own big-data, a Public-Private model will be formed, led by financial, distribution, and communication companies, academia, and public institutions to implement an innovative framework for data-analysis to improve quality of Seoulites' lives.

Shocks and stresses	Civilians' inability to access data information, Lack of public-private cooperation in collection and analysis of data
Resilience goal	Enhance the public usability of data through Smart City Data Center and the big-data storage for public data to move towards a big-data driven smart city.
Department	Smart City Policy Bureau, Big Data Division
Partner(s)	Financial institutes, telecommunications, academia, public institutions



ACTION 2

Build smart CCTV network

Period

2018-2021

Budget (KRW)

97.44 billion



Seoul operates 80,000 surveillance cameras in total, of which 50,000 managed by each district offices. Statistics from the Korean National Police Agency proved the effects of open-street Close Circuit Television (CCTV) on crime that after the installation, the crime rates of Seoul decreased by 26.6%. Seoul will further enhance the crime prevention effects to apply cutting edge technology such as artificial intelligent-embedded CCTVs by 2021 that provide face recognition, vehicle recognition, and automatic tracking to offset human errors. Also, each district will be financially supported for intelligent CCTVs and AI deep learning-based services.

be incorporated to improve our capability of building urban safety.

SMG will create Smart Seoul CCTV Safety Center to build the ground for urban safety infrastructure and smart Seoul safety network by connecting with the entire districts, 911 Emergency Operation Centers, and the Korean National Police Agency to share the same CCTV information.

By utilizing smart technology and the information and communication infrastructure, we expect to make use of new tools to improve public safety, in crime-fighting and to keep an eye on what is going on in the City. An intelligent video surveillance system will manage all digital data and meet a variety of service needs, including police collaboration, coordination, decision-making and response times in emergencies.

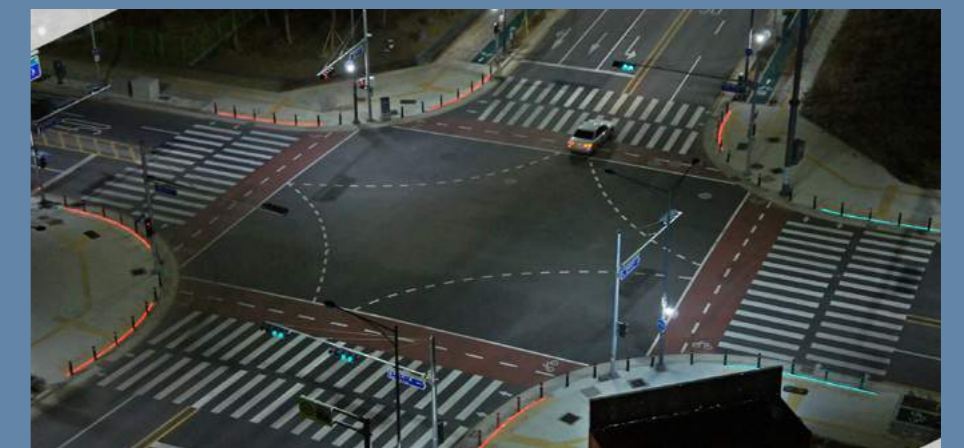
With a rising number of surveillance cameras, the city is short of staff in charge of monitoring the cameras, and keeping track of all situations. Thus, the AI system must

Shocks and stresses	Decentralized CCTV data management, intra-regional cooperation
Resilience goal	Advance CCTV technology to prevent crimes, prepare safer Seoul for citizens, enhance disaster preparedness, shorten response times
Department	Information Communication & Security Division
Partner(s)	25 District offices, fire station, Korean National Police Agency, Emergency Center

SUPPORTING ACTIONS

Smart Crossing

Korea's traffic accidents, especially the number of deaths from intersection crossings, is three times of the OECD countries' average. Among pedestrian-related traffic accidents, 22% occurs on the crosswalk. As the number of "Smombies" - smartphone zombies - increases, pedestrian fatalities at crosswalks are expected to rise as well. To address such circumstances, a huge LED traffic screen will be implanted onto the road with audio guidance to let pedestrians know whether they can cross. This would reduce the number of pedestrian accidents and discourage anyone who unexpectedly walks into the road in red light. By doing so, pedestrians will be more responsive in crossing the road, and drivers at night will be able to detect any pedestrian rushing to the other side of the road.



Smart Infrastructure Embrace AI-based surveillance systems on infrastructures

To places where the city cannot hire staff to monitor the system, intelligent rail robots with AI-based information system embedded will be installed for Smart surveillance on infrastructure in all districts. This initiative was selected as the Ministry of ICT's public service of the year and will be adopted in Eunpyeong-gu first and be expanded to all districts.

Set up BIM-based comprehensive management system of bridge facilities

Seoul will embrace a BIM-based management system, an intelligent 3D model-based platform, to adopt state-of-the-art technology in the maintenance of bridge facilities and systematically manage the growing data.

Smart Fire Prevention

Apply IoT based real-time fire alarm system

Inspection of fire protection facilities were held regularly. However, Seoul will make it into a real-time checkup by using IoT system to share the data from fire detectors with all fire departments from private buildings. That way, civil servants in the fire department do not have to visit all the buildings, and instead can oversee the operating condition from the control room.

Smart Welfare System

Look after elderly single-person households using IoT

For 25 million of elderly living alone, or on the national basic income program, Seoul will use analyze the data from IoT system of their daily activity and detect any extreme temperatures or humidity. It will make an emergency call if there is any sign of an emergency.

Expand "Ansimi," a free danger monitoring service, to all districts

"Ansimi" a free danger monitoring service, once limited to women's use only, will be expanded to all districts and to all individuals including the elderly, the physically challenged, and children. Ansimi is a 24-hour smart one-stop safety network that connects with 32,597 CCTVs and smart devices to monitor in real-time and provide rescue support as well with a control center in each district.

SUPPORTING ACTIONS

Initiative	Department	Explanation	Period
Smart Crossing	Smart City Policy Bureau	LED lights implanted on the road to reduce crossing accidents	2018-2021 Budget 6.2 billion KRW
Smart Infrastructure	Road Facilities Division, Bridge Maintenance Division	AI-based smart surveillance system, BIM-based management system of bridge facilities	2019~ 2.8 billion KRW
Smart Fire Prevention	Seoul Metropolitan Fire and Disaster Headquarters	Remote monitoring of fire facility	2019~ 1.0 billion KRW
Smart Welfare	Senior Citizen Support Division, Women and Family Policy Affairs Office	IoT-based care service for elderly, Ansimi service in all districts	2018-2022 12.8 billion KRW



Owl Bus and Squirrel Bus



Dating back to 1949, Seoul has had a long history of high-quality public transportation system. With the period of the rapid growth of Seoul, its bus system also followed the lead. The overhaul of the Seoul bus system in 2004 was referred to as the "Bus Reformation," opening a new chapter in public transportation to be faster and more convenient. Most bus stops have been relocated to the middle of the road to lessen traffic congestion. Bus-only lanes, free transit fares, and bus cards also ensure excellent bus services even during rush hour.

Seoul is the city that never sleeps. Owl Bus, the city's intra-city buses that run nine routes exclusively from midnight to 5:00 am, is one of the well-received initiatives in transportation. Numerous restaurants and markets are open until the wee hours of the morning and you can easily spot people on the streets even at 3 am. Dongdaemun Night Market, an open marketplace for all-night-long, is packed with people, bustling with nocturnal shoppers, making it very hard to find parking spots. A place like this where streets are covered with people needs all-night public transportation. Owl Bus lessens the financial burdens to people who work late at night or those who have no choice but to ride a late-night taxi. Started from the idea of a Seoulite, Owl Bus operates on lines selected based on big-data analysis collected from 3 billion mobile devices and 5 million pieces of taxi data.

The adoption of Owl Bus allowed people to save transportation expenses that were spent on taxi fares before. Also, with public transportation still offered at night, people feel safer in the city, and it can address the growing inconvenience due to the late-night taxi's refusal of passengers. The numbers speak for themselves. In 2017, the demand for Seoul's public buses dropped 1.7% whereas the preference for Owl Bus surged 28% over the same period. There were once inquiries for late night subway service; however, the subway requires large-scale ridership and it would be too much of a burden to operate subways late at night with fewer passengers than daytime. Therefore, it is more efficient to operate buses during late night and dawn hours.

There is another city transportation that was named after an animal. Taken from squirrel wheels, Squirrel Buses are customized rush hour buses that go back and forth between sections with extreme congestion. They operate on short sections with few buses as the city's response to the citizens' demand for less congestion and the need for efficient bus operation. Launched in 2017, squirrel busses run between seven routes to ease over-crowdedness in the Seoul metropolitan area.

Congestion relief conditions and the citizen response to the Squirrel Bus and the Owl Bus implementation were monitored to determine the feasibility of expanded operations of the buses, including operations after office hours and operations in other areas. All the data of citizens' usage of public transportation cards including buses, subways, and taxis, and mobile communications are collected and analyzed through big-data analysis to find out the demand of people for these new services. By doing so, Seoul proactively answered the call of its people and solved the daily hassles of Seoulites.

PROGRAM 3 Climate Change Response System

ACTION 1

Period

2014-2022

Budget (KRW)

2.07 trillion



Mitigate greenhouse gas emissions

In line with the climate targets of the Paris Agreement, Seoul announced in 2015, "The Promise of Seoul: Taking Action Against Climate Change," a comprehensive strategy to mitigate and adapt to tackle climate change and to reduce 25% of the 2005 greenhouse gas emissions by 2020. In December that year, Seoul formally proposed to establish the new climate regime by cutting its emissions at the UNFCCC COP21. Seoul took part in the C40 Cities Climate Leadership Group, C40, joining other influential cities around the world to tackle climate change and reduce greenhouse gas emissions.

By committing to enhancing the health, well-being, and resilience benefits of the global community, Seoul is positioned as a leader for climate action and global partnership by chairing the Summit in 2009.

The total amount of greenhouse emissions has been cut by 1 million tons year-on-year since 2013. Since 2015, however, the rate at which these emissions were reduced has plateaued. The major causes of these rising risks include abnormally extreme temperatures and a surge in energy consumption due to climate change.

Unit: 1,000 tons of CO2

Year	2005	2012	2013	2014	2015	Emission Cuts	
						vs 2014	vs 2015
Total Emissions	49,445	48,311	46,817	45,673	45,646	△27 (△0.1%)	△3,799 (△8%)

Shocks and stresses	Rise of urban temperature, extreme temperature, electricity consumption
Resilience goal	Reach our greenhouse gas reduction goal, zero plastics, transformation to renewable sources of energy
Department	Environmental Policy Division, Parks and Landscape Policy Division, Climate and Air Quality Division, Road Management Division
Partner(s)	Hyundai Motor Company

Eco-friendly Vehicles

To achieve this goal, Seoul pursues the realization of a low-carbon city which requires more emissions to be cut. By 2020, Seoul aims to reach 37 million tons of greenhouse gas emissions. By 2022, Seoul will produce more eco-friendly vehicles including 80,000 electric cars and transform major emitters like buses, taxis, and low-efficient cars into

electric vehicles. Moreover, cooperating with car manufacturers, six hydrogen car refilling stations will be built by 2021.

Solar City Project

As its comprehensive plan states, Seoul discloses its aspiration to be "Solar City Project." In November 2017, the Climate and Environment Headquarters unveiled the

5-year development plan for solar energy to motivate ordinary people to participate in increasing solar panels for home installation. Currently, around 30,000 households in Seoul are equipped with mini solar panels, but Seoul's ambitious plan will see the number grow by 1 million by 2022, allowing additional 310,000 households to generate solar energy every year. Newly constructed buildings will be required to install solar panels, and existing buildings will be subsidized to replace with mini solar panels.

More public building will be installed with mini solar generators, and the number of solar panels on the roof of townhouse and the patio of private buildings will increase to 1 million. The government-owned land will be used to build more solar generators and solar panels, and this project will further allow deploying utility-scale solar panels on public lands.

Eco-friendly Road

In line with the effort to realize energy transition, Seoul will apply photocatalytic cement-based coating that exhibits air purifying materials to road pavements for eco-friendly and clean road conditions.

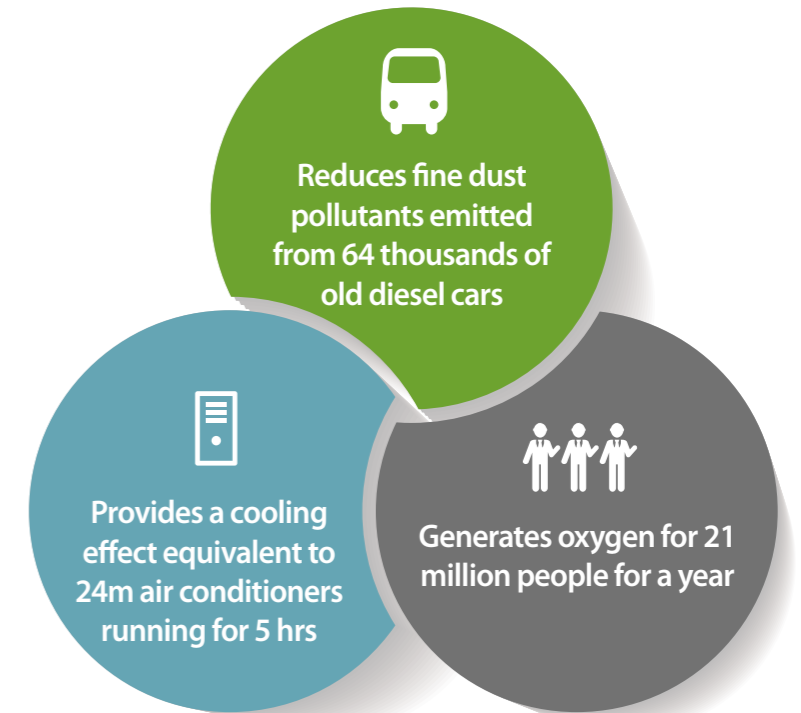
Planting 30 Million Trees

According to the National Institute of Forest Science of the Korea Forest Service, planting one tree can reduce 35.7g of fine dust per year, absorb 664 kcal per sq meter of atmospheric heat, and create 1,799kg of oxygen every year.

Seoul created 2,203 forests and parks across the entire city over the past five years under the "Thousand Forests, Thousand Gardens" project that turns the grey of the city into green. About 15.3 million trees had been planted and the percentage of land taken up by parks and green spaces also increased. Recognizing positive reactions of the public, the city plans to take on the "Planting Trees Project 2022-3000," to plant 30 million trees by 2022. Starting from 5 million this year, we will add 15 million more trees to reach 30 million to provide urban greening for residents.

Planting 30 million trees reduces particulate pollution generated by 64,000 aged diesel cars for a year, provides a cooling effect equivalent to that of 24 million air conditioners running for five hours, and produces oxygen equivalent to the amount that 21 million adults can inhale for a year.

Planting 30 Million Trees
Cuts fine dust level
Cools urban heat
Cleans the air



ONE TREE PLANTED

- reduces 35.7g of fine dust
- absorbs 664kcal of heat per 1m²
- generates 1.799kg of oxygen per year

ONE DIESEL CAR

- Creates 1.680g of fine dust per year



PROGRAM 3 Climate Change Response System

ACTION 2

Period

2018-2022

Budget (KRW)

86.5 billion



Reduce fine dust

The World Health Organization says particulate matter, or fine dust, has the greatest effect on human health, causing lung cancer and other respiratory diseases. Particulate matter (PM2.5) is one of the leading causes of heart disease and stroke (58%), as well as respiratory disease (18%), lung cancer (6%) of the 1 million deaths in Korea.

As such, air pollution caused by fine dust has directly influenced people's lives. Seoul plans to lower the annual concentration of fine dust from 25µg/m³ as monitored in 2017 to 15 µg/m³ by 2025 and set up its yearly targets accordingly.

Shocks and stresses	Diesel-powered commercial vehicles, air pollution, sustained high-level of fine dust, climate disaster
Resilience goal	Protect health of the vulnerable, guarantee citizens' right to breath clean air in three direction: mitigation, public health, governance
Department	Climate and Environment Headquarters, Vehicle Emissions Control Division, Housing Policy Division
Partner(s)	Seoul Institute of Technology, SH, Seoul Energy Corporation, Korea District Heating Corporation

Eco-friendly Condensing Boiler

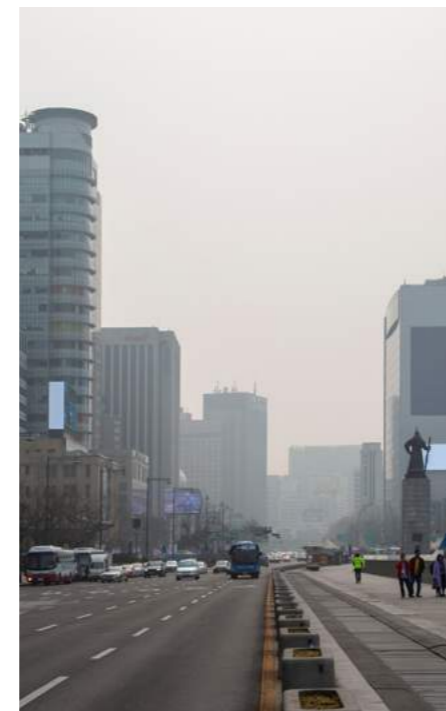
As ordinary water heaters used in households are a major emitter of nitrogen oxide, Seoul proposed a mandatory policy to replace 250,000 aged household boilers with condensing water heaters or boilers that are highly energy efficient and eco-friendly by 2022. All newly constructed buildings will enjoy green heating and cooling technologies where using energy saves the environment just as much as it saves money.

Eco-friendly Apartment Complex

As part of Seoul's efforts to mitigate fine dust level, Seoul Housing and Communities Corporation painted the outer layer of apartment buildings with photocatalytic materials that reduce the major emitters of fine dust, nitrogen oxide, and sulfur dioxide. When new apartments are built, the City government will create an "urban forest" that prevents the inflow of fine dust between roads and houses.

Low Emission Zone (LEZ)

A Low-Emission Zone is an area to restrict polluting heavy diesel vehicles to encourage vehicles to be replaced with alternative fuel sources. All vehicles traveling within this zone will need to fulfill much tighter emission standards or pay a daily charge. By assigning parts of Seoul the Low Emission Zone (LEZ), the City plans to provide benefits and penalties according to the eco-friendly vehicle rating system and limit all diesel vehicles entering the Seoul Metropolitan area. To qualifying eco-friendly cars, financial benefits including discounts in using parking lots will be provided on top of subsidies from the government when purchasing green vehicles.

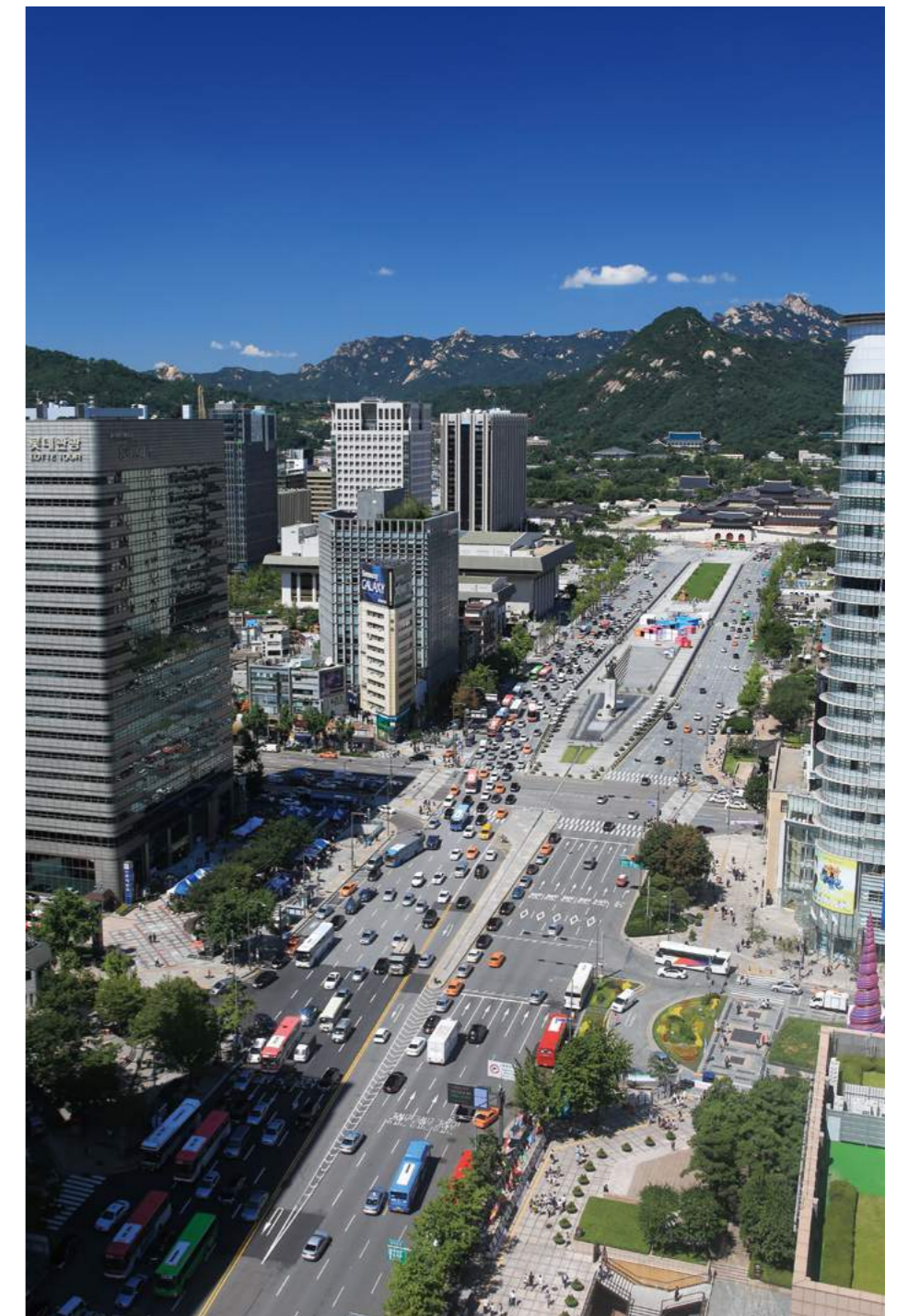


Green Neighborhoods

On top of this measure, adopting greenification on the lower stories of buildings was applied for the first time in Korea at the end of 2018, and after evaluating the effectiveness on reducing fine dust level, Seoul will extend this initiative to more apartment complexes.

Broad-leaved trees are known to be effective in reducing fine dust levels by absorb-

ing fine particulate matter (PM2.5). Seoul will create green space in walkways near the streets to better the air quality where people are exposed to polluted air from fossil fuels. Multiple layer green spaces can reduce fine dust 20 percent more and 0.7 degrees Celsius more than a single layer. Furthermore, Seoul will create green forest areas in pedestrian spaces with materials that absorb particulate matter.





One Less Nuclear Power Plant

Climate change poses an extremely challenging and unprecedented shift in the world. The international society strongly urges for mitigating greenhouse gas emissions and fossil fuels. Aligning with such global voices, Seoul selected a new approach to involve citizens for our environment. One Less Nuclear Power Plan is the flagship climate-related policy that puts Seoulites at the core.

One Less Nuclear Power Plant, as its name implies, saves 2 million Tonne of Oil Equivalent, which is a unit of energy replacing the amount of energy released by burning one tonne of crude oil, equivalent to the energy volume produced by one nuclear power plant.

In the course of years from April 2012 to December 2016, about 3.37 million Seoulites took parts in the "One Less Nuclear Power Plant" initiative. It is now in its second phase that will be completed by 2022. Apart from the number, the fact that people shared ideas and added their voices was meaningful. As a result, this participatory effort incorporated habits of reducing energy consumption in people's daily lives, lowering Seoul's energy consumption compared to other cities in Korea. Seoul was also able to save 15% of gas usage when the nationwide average was only 5% in 2014. Clearly, Seoul's energy demand is handled efficiently.

Our success has given lessons to other city governments. One example is the Energy Independent Town. As part of its six-year-old One Less Nuclear Power Plant initiative, the City has designated energy self-sufficient neighborhoods that produce energy and participate in energy conservation activities. Under the energy self-reliant village plan, a village is converted from being a power consumer to a village that creates profit through efficient use and generation of energy, and shares energy in connection with energy welfare. Their activities include installing LED lighting and residential solar systems, and Seoul plans to increase the number of such energy self-reliant villages to 140 by 2020.

The energy-independent community plan is paying off. The advent of mini solar panel induced more jobs in the relevant sectors and the market expansion. This is indeed the power of One Less Nuclear Power Plant.

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100 RESILIENT CITIES

PROGRAM 4 Proactive Management for Aging Infrastructure

ACTION 1

Period

2018-2022

Budget (KRW)

13.76 billion



Forecast aging infrastructure and integrate safety management system

With rapid economic development in the 70s through 80s, most of Seoul's major infrastructures, built around the same period, are getting older quickly. Among Seoul's bridges, tunnels, water and sewage, and other facilities, the rate of aging infrastructures older than 30 years will surge from the current 32% to 61% in 10 years, and even up to 86% in just 20 years.

The standard of the infrastructure quality back then was set to provide massive and prompt supply during the 70s and 80s. However, it

cannot meet the higher safety requirements and the quality of infrastructure today, fitting to the current income level.

Seoul's infrastructure is aging, underperforming, and in need of sustained care and action. A heavily tilted focus on constructing new infrastructure leaves a hole in the safety of our citizens from building collapse, sunken roads, sewage leaks, and burst heating pipes. This calls for action to incorporate the management of our aging infrastructure into the City's institutionalized framework.

Shocks and stresses	Concerns for facility breakdown, possible gas explosion, decentralized management of underground facility
Resilience goal	Separately managed underground facilities will be controlled by the City and evaluated through a big-data analysis.
Department	Safety Management Division, Road Facilities Division, Road Management Division, Office of Waterworks, Water Reclamation Planning Division
Partner(s)	KT, KEPCO, Korea Gas Corporation, Seoul Energy, Korea District Heating Corp.

Big-data Forecast System for Aging Infrastructure

Thus, Seoul will transform all the information on the current state of its infrastructures to the big-data system and detect any functional problem or failure in the future. By 2019, Seoul will invest 7 billion KRW in developing a big-data analysis system. All facility management information will be collected into the database and be used to predict the change in conditions and maintenance cost for each facility. A future-predicting model that calculates the best time for maintenance and reinforcement will be established.

Integrated Underground Facility Management

The recent fire that broke out at a KT Corp., a company that provides the fastest internet connection and the rupture of an underground hot water pipe in 2018 gave us an opportunity to raise awareness on

managing underground facilities including cable tunnels, and hot water pipes. To address the issue, the SMG formed a public-private task force and established the "comprehensive underground facility management system," which will come into effect in July. Seoul's underground facilities consist of common utility tunnels, gas pipes, waterworks and a sewage system that cover over 52,697 km. Among them, cable tunnels, power plants, and gas are overseen by the private sectors, making it difficult for the City government to fully grasp their status. Engaging in such matter, the Seoul Metropolitan Government appealed for a revision on the safety-related legislation so that the SMG will be the control tower in managing, monitoring, and inspecting the underground facilities joined by district offices. By upgrading the comprehensive management system of the underground facilities, we will sustain and improve our resources.

ACTION 2

Period

2018-2022

Budget (KRW)

606.48 billion



Strengthen real-time monitoring system for infrastructure

In times of rapid transformation during the 70s, Seoul constructed a vast number of buildings and houses that are now in need of renovation. After a series of accidents, fears grew over the safety of Seoul's crumbling infrastructure. In order to prepare for the next century against risk factors and

financial burdens, the City will change the current facility management system to proactively serve mid- to long-term resilience. Through this, we will foster a safer and reliable city.

Shocks and stresses	Collapse of public infrastructure, earthquake hazards
Resilience goal	Facilities will be linked to the Real-time Monitoring Center to enhance the disaster preparedness in times of crisis.
Department	Safety Management Division, Facility Safety Division, Contingency Response Division
Partner(s)	Seoul Institute of Technology

Maintenance Check on Infrastructure

A real-time monitoring center to check on city infrastructure anytime, particularly bridges and tunnels, forms the foundation for proactive maintenance and a stronger disaster preparedness system. Starting with a pilot program in 2019, the central government, citizens, experts and related organizations will work together to maximize the effects of urban infrastructure maintenance. Since aging facilities require timely repairs and replacements, Seoul will actively propose financial and systematic support from the central government. By June 2022, about 60 road facilities and 90 pieces of intra-city information will be linked directly to the monitoring center and the dedicated staff will be able to control and address any malfunction or breakage through remote access directly from the center.

Seoul will continue to monitor safety standards and how well they are operated within the City's safety management system in cooperation with 25 district offices which plans to have their own construction safety centers.

Advanced Seismic Design

The largest earthquake in Seoul occurred near Yeongdeungpo-gu in 2004 with a magnitude of 2.5. However, concerns have grown ever since the 2016 Gyeongju earthquake with a magnitude of 5.8 causing massive damage. If a sizable earthquake strikes this densely populated capital city, the overall damage will be tremendous where the average earthquake resistant rate was only 19.1% as of 2018.

Addressing this downfall, the Seoul Metropolitan Government aims to raise the 76.7% earthquake-resistant rate for public buildings to 100% by 2022 and plans to complete earthquake-resistant construction of the 245 buildings among 634 public facilities. Building robust infrastructure that is reliable in the face of potential earthquake hazards will be the first step to address the threats head-on and safeguard the residents.

Safety Management of Private Buildings

Seoul has conducted an in-depth analysis of old private buildings and allowed the owners to go through self-analysis for their buildings. Furthermore, the Amendment of Restriction on Special Local Taxation Act has been implemented since 2016 to provide tax subsidies for completing renovation with seismic designs.

Seismic-resistant rate for public facilities

2018	2019	2020	2021	2022
83.2%	88.2%	91.5%	95.2%	100%



Seoullo 7017

The Seoul Station area is located at the heart of the Seoul Metropolitan Area, but due to a rather complicated structure with train rails, the regions around the station were difficult for drivers and pedestrians to cross.

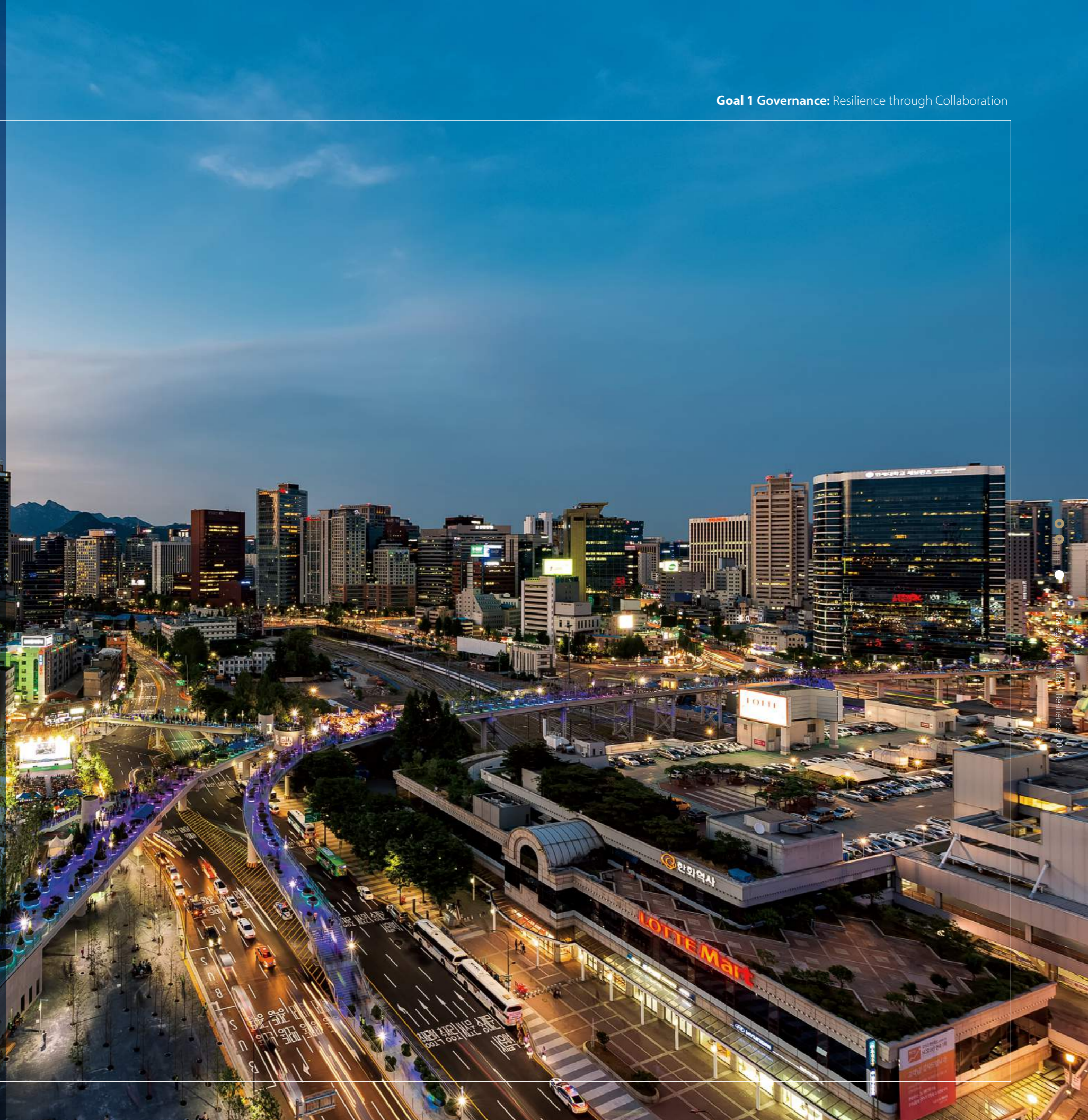
Since its construction in the 70s, the Seoul Station overpass had remained as one of the most underdeveloped areas until renovation began. The original plan was to completely remove it, but a slight change of the idea brought about the difference. With a hope to transform the once an elevated highway into a high line public park for people to rest, the roadway was reborn as a beautiful sky garden for pedestrians to enjoy.

Seoullo translates into the dual meaning of “towards Seoul” and “Seoul Street.” 7017 marks the combination of the construction year of the overpass, 1970, and its new function as a public walkway in 2017.

Since the project was launched in 2015, the main challenge was working with local businesses and residents, providing an alternative way to alleviate traffic concerns, and safety issues during the construction. The City held 73 rounds of meeting with residents, 7 gatherings, and 13 consultations with partner organizations to listen to the voices of local stakeholders and citizens who felt differently about the Seoullo project. After a period of long arguments and discussion, finally, on May 20th 2017, the overpass was transformed into a matrix of sky garden full of flora and fauna.

Winy Mass, a Dutch architect and the founder and chief architect of MVRDV, won the design competition for the Seoullo project that reflected Seoul’s vision and strategy to turn a concrete structure into a place of vitality and life. A paradigm shift from an automobile-focused area to citizen-friendly pathway was realized. In less than a month since the opening of Seoullo 7017, more than 2 million people visited to see the renewed greenery. As of November 2017, on average, about 20,000 people on weekdays and 40,000 people on weekends find themselves enthralled with their new landmark.

The completion of Seoullo 7017 does not mean the end of the project’s work. The Seoul Station 7017 project will continue to focus on underdeveloped areas of Seoul.



PROGRAM 5 Safer Neighborhoods

ACTION 1 Promote Crime Prevention Through Environmental Design (CPTED)

Period
2012-

Budget (KRW)
-



Seoul started promoting design as a source of urban growth. In 2010, the City was designated as the “World Design Capital” thanks to such efforts. Furthermore, Seoul made a substantial headway in employing design to address diverse social problems including crime, school bullies, dementia, and stress. This way, the effective urban design will lead to not only a reduction in the incidence of crime but also an improvement of the quality of life.

This serves as a driving force to create safer neighborhoods through Crime Prevention Through Environmental Design (CPTED). By applying design to marginalized and high-crime districts, Seoul hopes to see deterring criminal behavior and alter the physical layout of neighborhoods.

The City hears people’s voices through hearing committees and surveys and derives design solutions fit for each region. Using this framework, Seoul has developed and improved the prototype for its Crime

Prevention Design and was given the presidential citation at the 3rd Korea Crime Prevention Contest. In June 2019, Seoul won Sylvia Harris Award at America’s SEGDC Global Design Awards, which corresponds to the grand prize in the field of public design.

The Skyline Wayfinding project applied to Geumho-dong displays addresses on the top exterior of each house. The neighborhood was densely packed with old and low-to-the-ground houses, which makes hard for people to say their exact location in emergency.

The Crime Prevention Design that was applied in Mapo and Gangseo district in 2012, reduced the crime rates and facilitated capacity of each neighborhood. Seoul’s design governance will surely promote safer residential areas and prevent any hazard within people’s neighborhoods. We are already making strides to explore new CPTED-related projects.

Shocks and stresses	Crime, high level of fear felt by residents, lack of social cohesion in the neighborhood
Resilience goal	Increase events to engage residents in discussing regional problems as a preventative measure, enhance residents’ sense of belonging, create community spirit
Department	Culture Policy Division
Partner(s)	Korean National Police Agency, Districts



ACTION 2

Period
2013~

Budget (KRW)
39.75 billion



Build safer neighborhoods for women

Of the 10 million populations in Seoul, the number of women is reported as 5.19 million, a little more than that of men.

Studies consistently find that women around the world tend to have much higher levels of fear of crime than men. According to the Seoul Survey conducted in 2010, women in Seoul fear crime more than the OCED average for women. Since 2013,

Seoul has been pursuing policies tailored to women to promote gender equality and a safety net for women, and we will further tighten the safety standard so that no one is able to get away with crime against women. This means keeping our work to build up what we are already doing and raising our bar to build a sustainable neighborhood.

Shocks and stresses	Crimes against women, fear felt by women elevated
Resilience goal	Align with initiatives by the United Nations and other cities around the world to end violence against women, provide services for a safer city for women
Department	Women’s Policy Division
Partner(s)	Districts, village communities, Korean National Police Agency

Women Safety Sheriff

Spy cam crimes have become so prevalent that female police officers now regularly inspect public toilets to check for cameras in women’s stalls. To discourage the huge number of spy cam crimes against women and to ensure a safe city led by women, Seoul will increase anti-spy cam campaigns to crack down hidden cameras and any illicit footage inside subway stations, public buildings, universities, and private buildings.

Women’s Safety Scouts

A nighttime escort program for women is gaining popularity in Seoul, as people are using the service over the past years. For women who return home late at night, Seoul will increase the number of Women’s Safety Scouts and expand the service to all districts year by year.

Women’s Safe Mail Box

Women who live alone very often do not feel secure for safety concerns. We see on the news that crimes specifically targeting women who live alone are on the rise. Offenders pretend they are delivering mail or a package and suddenly reveal their true intention once the door is opened. Seoul will expand the number of Safe Mail Boxes and Women’s Safe Shelters to 300 by 2022 in residential areas where many women living in one person households do not have to meet delivery people face-to-face.

Women’s Safe Village

Furthermore, in order to address violence against women including sexual abuse, domestic violence, and sexual trafficking, Seoul will foster village networks run by each district to encourage residents to form a “sheriff” network within the neighborhood to create a safer environment for women. This initiative will be supported by residents, NGOs, local police offices, and the districts where residents themselves will oversee projects to better community surroundings.

SUPPORTING ACTIONS

Cultivate safer school zone

Seoul will increase the security staff of 559 public elementary schools and 13 special schools for children with disabilities. Thus, all school zones in Seoul will be a safer place for children to play, study, and rest. That way, parents will feel more relieved and can entrust the care of their children to schools. The presence of security officers provides the physical safety of students and children.

SUPPORTING ACTIONS

Initiative	Department	Explanation	Period
Safer school zone	Education Policy Division	Increase number of security guards in public and private elementary schools	-
Budget			31.83 billion KRW



Old Public Pay Phone Box → Safe Phone Booth

With the universal use of mobile phones, people rarely use public phone booths. Seoul renovated the old and unused public phone booths to transform into the Safe Phone Booths to take refuge from the dangers of crime. Safe Phone Booths will automatically lock its door when people come into and report a crime, then a siren goes off and an alarm light turns on for help. The public phone booth, near Pungmoon Girl's High School in Bukchon Hanok Village, was designated Seoul's first safe phone booth in 2015, and the service has been expanded to provide a free wifi connection, charging service, etc. Working with KT Linkus, a subsidiary of KT and the company in charge of phone booth maintenance, Seoul will expand the usage of these phone booths which are already located all over the place to provide more convenient service to the public.



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GOAL 2

COMMUNITY:
Stronger and Connected
Community

Direction

No more policy blind spots
Community integration
Warm caring city for the vulnerable
Social cohesion

Challenge

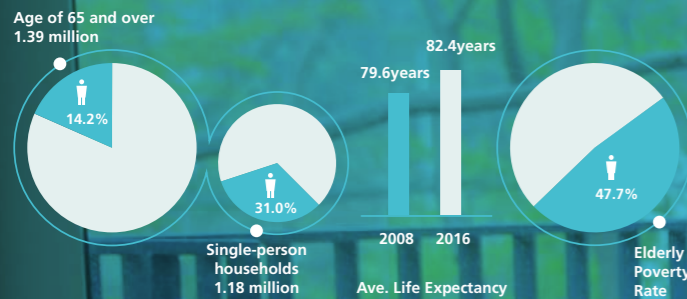
Demographic and family structural changes
Inter-generational conflicts
Disconnected communities

Outcome

More solidified and integrated community system
will make a viable and livable city

Goal 2 Community: Stronger and Connected Community

With demographic changes due to an aging society and declining birth rates and the rise of single-person households of youth and elderly, a breakdown of the community has become one of the most destructive problems in our society.



The weakened linkage within the community triggers social disruption like crimes, misogyny, lonely deaths, and suicides.

let alone disintegration among people. On the brink of disintegration, the vulnerable people are affected the most. Thus, caring for our neighbors in need must be the priority to restore community spirit. Embracing those who are within the policy blind spot is the irreplaceable aspect in Seoul's Resilience Strategy.

Seoul has been putting diverse projects spearheaded by welfare policies to secure the social safety of the elderly, the physically challenged, and children who are more susceptible to urban challenges. Seoul did not just provide support for them. We extended our goal to help them be independent and self-sufficient and with more job opportunities. The essence of welfare and care service is not from the administrative perspectives, but more on citizens', residents', and people's voices. Following initiatives, including the flagship Visiting Community Center, are of the citizens, by the citizens, and for the citizens of Seoul.



Major Initiatives

Free and organic lunch

Dolbom(care) service for the elderly

Village community

The Ondol for Hope

Provide free lunch with organic ingredient to all public-school students.

Establish 188 care centers for the elderly.

Initiative that has been implemented since 2012 to help build relationship among residents.

Provide necessity goods to marginalized neighbors.

*Ondol: underfloor heating system

Seoul undertook a comprehensive stakeholder engagement and public consultation to agree on the common idea that mitigating such social disturbance and caring for the needy are the government's responsibilities, but limiting the discussion to policy is not enough. This means community and its residents must be the core driver aided by governmental policies to empower citizenship. In that context, we themed our second Goal, "Community."

To elevate a sense of community spirit, the Seoul Resilience Team proposed four actions. First, Seoul will enhance care for the vulnerable people in the by polishing Visiting Community Center programs and launching new projects that put the citizen first. Second, stable housing will be provided not least to vulnerable residents. Third, support for infants and children care will be encouraged, and lastly, social challenges will be worked out through the culture of sharing economy.

PROGRAM 6 Connected Neighborhood for the Vulnerable

ACTION 1 Strengthen social safety net in all neighborhoods

Period
2019-2022

Budget (KRW)
42.78 billion



Shocks and stresses	Poverty, lonely deaths, spiking suicide rate, Indifference to our neighbor
Resilience goal	Any policy blind spot will be eliminated by fostering care service led by residents for our vulnerable neighbors who are at the heart of welfare service.
Department	Welfare Policy Division, Local Autonomy Administration Division
Partner(s)	Districts, Volunteer Service Center, Social Enterprises Association in districts

Visiting Community Center

Seoul established Reaching-out Community Service Center, also known as Visiting Community Center, to eradicate welfare dead zones and to deliver more practical welfare benefits to Seoulites. By transforming community service centers from a general administrative organization into welfare service bases that physically visit residents in need, Seoul intends to achieve resident integration within communities. Going beyond this, from 2019, residents themselves will be the small "community service" units, and actively be involved in discovering community challenges, welfare dead zones, any discomfort that residents may face.

Dolbom Care Service

Although more and more citizens take the initiatives in the care services by districts, the city government must be responsible for economic, social, and physical care for citizens in need.

"Dolbom," translates to "care" in Korean, is the center of Seoul's welfare policy. The biggest blindspot of the Dolbom service led by the government was insufficient service providers and that people need to wait a long time for their turn. The level of awareness of the service and its information among the vulnerable groups was significantly low. It is very difficult for these people to have access to the

information of possible services or about organizations that provide the service. Furthermore, the administrative process is subdivided into several steps. This multilevel and complicated procedure lowers the usage percentage of the Dolbom service.

To make sure all citizens have access to necessary services, Seoul will turn the current care service into one-stop customized services, reducing barriers for people with special needs. The "Seoul Dolbom SOS Center" will open in 2019 which offers services from housework to nursing and accompanied hospital visits. The Center will be equipped with Dolbom Managers, staff members composed of civil servants in social work and nursing, who will oversee each district to provide professional consultation and housework care services. Also, Emergency Dolbom Service will be launched to help citizens with special needs within 72 hours.



SUPPORTING ACTIONS

Eliminate lonely deaths & Promote community network

As of 2017, the number of single-person households accounted for 31% of the total 3.81 million, displaying a grim truth of weakened social safety net due to our society becoming more nuclear family. To address this issue, Seoul will operate solutions team by districts, and improve the current welfare system, the Hope Welfare Project, by reinforcing public/private partnership. Also, connecting with each resident with one another within the neighborhood, people will form a social connection, thus preventing lonely deaths. Resident-volunteers will visit households of elderly or those with no families to provide one-stop medical service as well as job consultations.

SUPPORTING ACTIONS

Initiative	Department	Explanation	Period
Eliminate lonely deaths & Promote community network	Local Welfare and Care Division	Operate solutions team of projects to restore social relationship in neighborhood	2018-2022
			Budget 4.79 billion KRW



Visiting Community Service Center

Seoul's vulnerable population is located widely across the metropolis area. Against this backdrop, public welfare and Dolbom services must serve the voices of the people.

Community service centers that are in each district offer access to civic engagement and City services for Seoulites. In the past, people must physically "visit" community service. However, for people who have difficulties to come to centers, the need for social workers to reach out to the households continued to arise.

Also referred to as the Reaching-out Community Service Center Program, it had its grand opening in July 2015 to eradicate welfare dead zones and to deliver more practical welfare benefits to the citizens. There remain many welfare dead zones and low-income families in crisis without basic livelihood security. By transforming community service centers from a general administrative organization into welfare service bases that visit residents in need, Seoul plans to address welfare blind spots and provide more practical services that integrate welfare, health and residents' engagement.

The average number of social workers reached 6.5 per sub-district to cover diverse groups of people. Not only the marginalized, but households that are expecting babies or already have newly born babies can also receive the Dolbom services. To ensure communications and dialogue with other districts, we supported cooperation between community centers in different districts and shared best-practices of Dolbom services.

Visiting Community Center 2.0 will start from 2019, envisioning the value that "We look into every corner of Seoul" to revitalize the neighborhood and maximize our assistance tools so that every community has access to the care it needs. We will stimulate village projects, especially in under-served areas through a public-private partnership.



PROGRAM 7 Stable and Affordable Housing for All

ACTION 1 Expand housing support for the vulnerable populations

Period
2019-2022

Budget (KRW)
53.31 billion



Stable housing, along with a stable job, is the basis for civil resilience. Currently, supplying more housing and relative support service is needed for physically challenged people and the elderly. Because the demand for housing differs by everyone, customized services for priority groups are needed.

Shocks and stresses	Physically challenged, elderly, homeless people in poverty, lonely deaths
Resilience goal	Enhance self-reliance of the housing vulnerable through stable housing environment and strengthen their ability to integrate into our society
Department	Disability Policy Division, Senior Citizen Support Division, Self-reliance Support Division, Housing Policy Division
Partner(s)	Volunteer Service Center, civil organizations

Public Housing for the Physically Challenged Citizens

Thus, five additional public housings for the physically challenged neighbors to support their independence will be built every year to reach the total number of 100 units by 2022. The City will conduct yearly surveys to identify who wishes to leave the facilities for the disabled. The 20 public housings for the physically challenged will be expanded to 260 units by 2022. The basic housing service will be provided to citizens aged over 18 living in Seoul with disabilities.

Housing for the Elderly

Housing support for the elderly will be expanded to 160 houses by 2022. Areas of

support will cover safety management, emergency response, health care, diverse human rights concerns, as well as housework. As we enter a new phase of an aging society, elderly care will make headway in creating favorable climates for near a quarter of our population.

Homeless Shelters

Furthermore, Seoul will provide more shelters for homeless people to reach 288 by 2022. Helping the homeless land a job and be free from substance abuse, professionals and social workers will be meeting with homeless people regularly to help them recover self-confidence and personal dignity. The City will guide them to make a fresh start.



ACTION 2

Period
2019-2022

Budget (KRW)
1.36 trillion



Enable citizen-customized housing welfare

Currently, of Seoul's low-rise buildings designated for maintenance, about 35% is over thirty years. As mentioned earlier, a stable housing environment gives a basic living standard for Seoulites, which means expanding Seoul's residential welfare to provide systemic support for the marginalized who cannot afford housing is the key to enhance resilience for its citizens.

Shocks and stresses	Conflicts in regeneration area among stakeholders, lack of public housing, income disparity
Resilience goal	Marginalized neighborhoods will benefit from the housing regeneration project led by resident-community.
Department	Residential Redevelopment Division, Residential Environment Improvement Division, Housing Renewal Project Division, Public Housing Division
Partner(s)	Community, Local architecture activists, youth organizations

Community Center within 10-minute Reach

Seoul is currently pursuing the community regeneration project to enable access of community centers within the 10 minutes from the neighborhood. That way, more jobs suited for the local community will be discovered, and several projects driven from the community will boost the local economy.

Furthermore, living facilities like parking lots, study centers, and senior centers for the residents' emotional, cultural and physical engagement will be increased, and most of aged vacant houses will be remodeled.

Vacant Housing Regeneration Project

In order to secure more housing spaces for people, Seoul will purchase 1,000 unoccupied buildings by 2022 to use them as public

rental housing so that an estimated 4,000 households will receive benefits.

To stabilize youth employment and housing, Seoul will team up with local youth communities to create start-up spaces and provide public rentals for newlyweds and youth. Private companies that undertake the renovation of vacant buildings will be financially supported. By 2022, Seoul plans to embark on the 235 housing maintenance projects for small-sized residential buildings led by private companies and the Seoul Housing & Communities Corporation. By doing so, citizens' residential areas will be cleaner and more convenient by transforming marginalized neighborhoods into places for urban regeneration projects.

SUPPORTING ACTIONS

Vitalize public communal housing Seoul will incorporate diverse ideas collected through surveys by residents including eco-friendly activities, education and culture sharing projects, and residents networking programs into solving community problems.

Promote community programs for rental housing Community programs were limited to public rental housings. Now, Seoul plans to expand the range of its programs to PPPs, private-owned housing, social housing, and residential areas. Also, residents are given opportunities to apply for topics for community programs, and when selected, they will be supported financially in the operation. The City will provide funds to run the program and to nurture experts in community solutions.

SUPPORTING ACTIONS

Initiative	Department	Explanation	Period
support for management of public communal housing	Public Housing Division	Guarantee transparency in public housing, Revive community spirit in public town houses	2019-2022 Budget 6.32 billion KRW
community program for rental housing	Housing Supply Division	Support community program projects	2019-2022 1.96 billion KRW



Increased Public Rental Housing Units

Between 2013 and 2017, the housing prices went up 10.9%, not least from polarization in the housing market. The “housing crisis” within young generation has intensified, and the rising rent prices prompted a record exodus from Seoul among people in their thirties. Unaffordable housing is also a major factor for people to delay or give up marriage and childbirth.

Lack of affordable housing undermines the stability of Seoulites and erodes the resilience of the City in the longer term. Recognizing this context began the project of expanding Seoul’s public rental housing.

With the rise of single-person households and the aging population, trends in public rental housing are also changing.

In line with the changing perception, the City has provided over 80,000 public rental housing units to vulnerable housing groups over the past five years. By investing 1.14 trillion KRW in attaining stable housing for the youth and low-income populations, Seoul reached the goal of providing a total of 105,770 houses in five years from 2012 to 2016, much ahead of time by 130%.

The public rental housing project shifted away from merely providing enough units to creating consumer-tailored rental housing. A total of 1,819 customized rental housing units, equivalent to 2,364 households, were supplied as Start-up Housing for young entrepreneurs, Safe Medical Housing for young and patients, Safe Women Housing for women with an enhanced security system, Lone Seniors Housing for seniors who live alone, and Artist Coop that allows artists to focus on their artistic endeavors.

Additionally, Seoul is undertaking innovative actions including a zero-energy housing complex in Nowon district, modular homes and public housing for young theater actors to meet the demands of diversified groups. Working with Seoul REITs (Real Estate Invest Trust), public-private partnered investment companies specializing in real estate investment, Seoul will provide 20,000 private rental housing units. To address the high demand for small-scale houses for two or three persons, the initiative will focus on small-sized housing complexes within the range of 25 to 60 sq meter.



PROGRAM 8

Childbirth and Childcare Service

ACTION 1

Expand public nurseries

Period

2018-2022

Budget (KRW)

405.5 billion



At the end of 2017, Seoul provided public nurseries three times more than other cities, reaching a 31.5% enrollment rate; however, the number of public care centers across Seoul still lags behind demand. To fulfill these aspirations, Seoul will increase 100 additional facilities every year from

2019 to 2022 to reach 50% of the attendance rate, which is equivalent to 110,000 children. Furthermore, district disparities will be alleviated by equally distributing the facilities in every district with using big-data analysis and standards tailored to regions.

Shocks and stresses	Imbalanced service between public and private childcare center, women’s career breaks
Resilience goal	Guarantee childcare services to those who need the most within each district.
Department	Childcare Division
Partner(s)	Seoul Foundation of Women and Family, District offices



ACTION 2

Broaden childbirth and childcare support

Period
2018-2022

Budget (KRW)
286.6 billion



Seoulites are postponing childbirth and are having fewer of them, leading to the lowest birth rate of 0.84 in 2017. Building prenatal and postnatal service and childcare infrastructure have become a dominant issue in welfare. Thus, comprehensive and systemic support is needed including lowering medical expenses for infants and children.

Shocks and stresses	Post-natal depression, uneven pattern of welfare benefits for infants and high-risk mothers
Resilience goal	Facilitate before, during, and after childbirth services for high-risk mothers and infants in low-income households to address low-fertility crisis.
Department	Public Health Division, Family Division
Partner(s)	Healthy Family Support Center

Visiting Maternity and Child Care Service

Seoul will incrementally increase the number of visiting nurses to 280 by 2022 as part of the helper service for pregnant women and newborn babies. Also, to high-risk patients and pregnant women, we will deliver a home visitation diet consulting to provide nutritional and medical therapy. Furthermore, voluntary social network among new mothers will be organized for early detection of postnatal depression and to promote a healthy nurturing environment for mothers.

Post-natal Helper Service for Households with Newborn Child

Currently, Seoul provides the helper service for mothers and newborn babies to low-income families. Seoul will broaden this support to all households with newborn babies by 2022. In line with this arrangement, more postpartum helpers will be trained and recruited to improve the quality of the service.



SUPPORTING ACTIONS

Lessen childcare burdens

Seoul aims to subsidize all childcare expenses after 2019, reaching free childcare for all children in Seoul. Furthermore, by extending operation hours in private daycare centers to late-night or even holidays. To achieve a free childcare system, by 2022, all public daycare centers will be mandatory to extend their working hours, and night owl childcare centers will be increased to at least one per district.

Expand early childhood care services

When a child enters elementary school, it is another time for mothers to enter the 2nd career break. Thus, afterschool care centers are in high demand. Seoul plans to increase 400 additional afterschool centers by 2022 so there won't be any waitlisted children. Also, Our Neighborhood Kium Centers, another name for a childcare center, will be increased and hire more childcare experts. Lastly, Seoul will continuously nurture 1,000 additional childcare experts every year to assist households with working parents.

SUPPORTING ACTIONS

Initiative	Department	Explanation	Period	Budget
Lessen childcare burdens	Childcare Division, After School Support Division	Operate daycare center after hours and increase teachers	2018-2022	289.2 billion KRW
Expand early childhood care services	After School Support Division	Increase Our Neighborhood Kium Centers, nurture additional parenting experts	2018-2022	694.16 billion KRW



PROGRAM 9 Innovative Solutions in Community

ACTION 1 Operate "Local Labs" to foster innovative solutions

Period

2019-2022

Budget (KRW)

200 million



Seoul will run diverse "Local Labs" within the city to detect any social concerns and form a solution team consist of citizens, the public, experts, and local businesses to fix the problems. After test-driving first in the underdeveloped region where social cohesion is relatively well established, this project will be expanded to other districts. The range of operation will vary from senior care to renewable energy, associated by local activists and professionals.

Once we discover a few best practices, the project will be applied to other Seoul districts. Also, if needed, local activists will be financially supported for their work and the residents' committee will also be encouraged to take part in this.

Shocks and stresses	Diverse community problems including poverty, energy, disintegrated community
Resilience goal	Provide opportunity for citizens, the public, experts, and local businesses to discuss regional problems together and draw solutions
Department	City Transition Division
Partner(s)	Local Autonomy Committee, Local Community, regional activists

ACTION 2

Period

2019-2022

Budget (KRW)

1.4 billion



Boost PPPs for the sharing economy

Seoul tries to encourage public resources to be distributed to its citizens. Such a principle will be better by combination of both public-private resources. Shortage of parking space is an everyday occurrence for Seoulites that can undermine the quality of residents' life.

Furthermore, the public-private governance with shared businesses, Seoul Metropolitan Office of Education, and universities will create job opportunities in the field of school facilities management. Developing visiting programs to shared services companies and creating citizen and teenager-oriented activities will allow Seoulites to enjoy the new and innovative culture.

Thus, Seoul will promote "priority parking areas" to help residents park closer to their homes and reassure all districts to adopt it.

Shocks and stresses	Lack of resources, inefficient usage of resources, residents' indifference and lack of voluntary cooperation
Resilience goal	Promote the culture of sharing among private stakeholders from government-driven public policies
Department	Social Innovation Division
Partner(s)	Local community, local activists, Local Autonomy Committee, Universities and educational institutes



Seoul Bike Sharing, Ttareungyi

Seoul's public bike system, Ttareungyi, was launched to alleviate environmental problems including air pollution and traffic congestion. This public bike, which can be rented and paid for using the mobile app Seoul Bike, has been growing in popularity. Without needing to register, people can purchase a daily ticket using mobile phone.

About 99% of the survey respondents said the Ttareungyi service should be more widely used by other citizens. Because Ttareungyi can be easily located in citizens' residential area nearby subway stations, bus stations, and residential areas, it is highly accessible. Seoul will not only increase the number of racks but add more safety programs to improve the culture of using bicycles. This will ensure a solid ground for mobility infrastructure and that people can use Ttareungyi more conveniently and safely.

PIONEERED BY THE
ROCKEFELLER FOUNDATION

100 RESILIENT CITIES

GOAL 3

INCLUSIVE GROWTH:
Prosperous Seoul for All

Direction

Resilient growth
Inclusive and equitable city
More opportunities for the vulnerable

Challenge

Unequal distribution
Unfair employment opportunities

Outcome

Inclusive society where vulnerable groups have equal and fair access to economic opportunities

11

Goal 3

Inclusive Growth: Prosperous Seoul for All

When we refer to a “disaster,” the first things that come to mind are physical disasters like earthquakes and floods. However, in the broader perspective, the economic prosperity is the prerequisite in establishing long-term urban resilience. In the face of a physical disaster, the damage is rapidly escalated into adverse longer-term consequences if economic structure is very susceptible, and the environmentally marginalized citizens are impacted the most from the disaster. Thus, having a sound and reliable economy is the way to minimize any possible short- or long-term impact from high-risk hazards and protect the vulnerable, striving for equitable growth for all.

The current state of our economy, however, does not look good. The persistent low growth rate is intrinsically linked to the unemployment rate hitting an all-time high, weakening Seoul’s growth engine. On top of low growth potential, the city’s economic polarization is intensifying, leaving less room for equitable distribution of resources. For this reason, assuring a fair economy is the all-out priority for every Seoulites to prosper from inclusive growth.

Seoul has implemented an employment security policy, allowing all Seoulites to thrive together. Irregular workers in public institutions were turned into regular workers, and labor-related measures were adopted to protect vulnerable workers whose labor rights are easily denied. Seoul’s efforts were well reflected in its projects for youth and the 50+ generations. Furthermore, education programs and services were provided for microbusiness owners and their economic independence. To those who experienced business failure and have done nothing wrong ethically, Seoul strengthened the social safety net for their second chances.

Sewoon Mart Arcade

One of Seoul’s oldest commercial and residential buildings is newly redeveloped into lend spaces for ventures and innovators

Major Initiatives

Half-price tuition at University of Seoul

Youth Platform

Basic Livelihood Security

Zero irregular employment at public institutions

Future fund for youth

Analyzing commercial districts

1:1 Startup Consultation

Consultation for the self-employed

Halve the tuition at the University of Seoul to help students explore career path for their future.

Create more policies for youth resilience.

To address income disparity, Seoul was the first city to adopt this initiative to improve quality of life and livelihood of low-income workers.

Guarantee employment security in the public sectors.

Create funds to support the youth help them be financially independent and invest in their dreams.

Evaluate the risks for a new business and marketing information through big-data analysis.

Provide customized consultation to prospective business owners or those who opened business less than one year.

Support 1:1 consultation by experts on marketing, advertisement, store management, accounting, etc.

Seoul aims to construct an economy that gives diverse opportunities and resilient potential for the vulnerable groups and pursues fairness for all Seoulites. To achieve our aspirations, Seoul will focus on customized support for the selected five groups: the youth, the 50+ generation, microbusinesses, vulnerable labor workers, and entities of the social economy to ensure a society that will bear fruit for all Seoulites.

PROGRAM 10

Youth Welfare and Jobs

ACTION 1

Realize Seoul-specific youth welfare system

Period

2019~

Budget (KRW)

9.6 billion



As of 2019, the youth unemployment rate has reached 10.1%. High unemployment rate leaves the youth population vulnerable to social isolation. To cover for those without job, thus do not hold employment insurance, Seoul launched Youth Allowance project in 2016 to financially support young job seekers. By 2018, a total of 12,000 people received benefit and 7,000 more to come in 2019.

A survey tells about half of beneficiaries of Youth Allowance was able to work in the field as they wished,

Seoul will also include 1,000 more people who are eligible for receiving benefits from the "Youth Account," which started in 2017, as well as financial consultations for youth. Besides the policy, other cultural and welfare programs like workshops, seminars, plays, and movies will be arranged.

Employment rate of the participants of Youth Allowance in 2017

Employed	Unemployed	Started own business	Creative activities
38.7%	52.8%	2.1%	6.4%

Shocks and stresses	Unemployment, economic disparity, polarization
Resilience goal	Facilitate prosperity of youth resilience through Youth Dividend and Youth Support programs.
Department	Youth Policy Center, Local Welfare & Care Division
Partner(s)	Seoul Youth Guarantee Center, Welfare foundations



ACTION 2

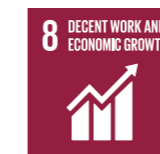
Develop New Deal Job to create private job opportunities

Period

2018-2022

Budget (KRW)

921 billion



Sluggish economic growth left 97,000 young Seoulites jobless, recording an unemployment rate of 10.2% in the second quarter of 2018. Thus, Seoul will take the New Deal Employment project to the next level and have the private sectors join to provide diverse opportunities for youth prior to being recruited. The New Deal Employment started in 2013, has created 15,000 positions by 2017 and the employment rate upon completion of the course reached 52.9% in 2017.

In conjunction with the commitment by the public sector, Seoul will expand the area of associate institutions to the government research institutes, business associations, and college career centers to broaden the spectrum of the people who receive benefits.

To settle this project as a new successful model for young job seekers, Seoul will invite more universities to connect the New Deal project with companies that provide more internship and will propose a customized recruiting process for promising SMEs.

Shocks and stresses	Unemployment, economic disparity, polarization, job insecurity
Resilience goal	Provide high-quality job opportunities by connecting youth and excellent enterprises.
Department	Economic Policy Division, Youth Policy Center
Partner(s)	Seoul Forum, Seoul Business Agency

SUPPORTING ACTIONS

Foster local universities as testbeds for start-ups

Seoul will create an innovative ecosystem for start-ups in Korea University, Kwangwoon University, Chung-Ang University, and Sejong University, which will be funded with 10 billion KRW over the next four years. These universities will be able to provide training programs for starting new business and fostering entrepreneurship. For a start-up friendly environment, Seoul will create a College Start-up Hub Task Force to establish a shared platform with private and global players.

Match best SMEs with young job seekers

To draw viable startup policies, Seoul's current employment support programs will be more accessible and consumer-focused. As of August 2018, there are about 532 promising Seoul-type SMEs in Seoul, and young job seekers will be able to have access to their recruitment plan and their status in the job market as well.

From September 2019, Seoul will widen the opportunities for job seekers to actually visit SMEs and experience on-site job interviews.

SUPPORTING ACTIONS

Initiative	Department	Explanation	Period
Foster local universities as testbeds for start-ups	Campus Town Revitalization Division	Promote start-ups by college students through providing incentives to universities	2019~ Budget 278.8 billion KRW
Match best SMEs with young job seekers	Employment Policy Division	Connect job seekers to SMEs	2019~ 120 million KRW



Youth Autonomy Council

Among the city governments in Korea, Seoul was the first to launch a Youth Autonomy Council to expand the role of youth in the legislative process in March 2019. Not only do they discover and propose a political agenda, the young generations are also part of the budgeting process to engage in diverse solutions on the overall governance of the Seoul Metropolitan Government. Over the past six years, Seoul has identified and designed various flagship actions through the youth governance, of which the "Youth Dividend" and "Youth Hope Fund" are considered very successful.

Seoul's Youth Autonomy Council is divided into two major pillars: the Seoul Youth Policy Network, a youth-led policy making program, and the Youth Policy Center, the administrative organization under the Mayor's office. After the Seoul Youth Policy Network discovers the areas of interest and allocates budgets accordingly, the proposed bills go through the consent and approval process at the Seoul Metropolitan Council, which then get executed at Youth Policy Center. In other words, once considered mayor's sole authority is

given to the hands of the youth who will benefit directly from Seoul's youth policies.

The Seoul Youth Policy Network, launched in 2013, has held regular meetings, convening 1,570 young Seoulites to involve in the formulation and implementation of youth-oriented approaches. Specifically, it conducted 170 open discussions, initiated 98 projects, and developed 162 policy agendas for youth.

The selected agenda was adopted as a new initiative at the "Youth Autonomy Council," went through a budget screening process by the Seoul Metropolitan Council and finally became an official project. The Youth Autonomy Council, which is an annual event since 2015, is recognized as an exemplary case for cooperative governance. It is an integrated decision-making organization led by the City government, the City council, and the youth to delve into creating a more inclusive future.



PROGRAM 11 Employment Opportunities for the Elderly

As life expectancies edge up every year, we are the first in human history to face the era of the centenarian, a person who lives to the age of 100 years. The 50 plus generations refer to the people aged between 50 and 64 who are retired from their work, but not yet categorized as “seniors.” Represented by baby boomers, this generation accounts for 21.9% of the Seoul population, the largest group of all with new generational traits and needs. The 50+ generations are better educated and financially well off than the middle-aged generations in the past; however, the super-slow economic growth rate deters their children

from getting new jobs, which means more expenses than income for the 50+. Also, as the society is aging, they would have to wait much longer after retirement until they start receiving the pension benefits. Thus, the 50+ generation needs social support and can contribute to our society at the same time. They should be considered as an unprecedented generation of opportunity and resources, not as a burden. The 50+ generation is the key to solve inter-generational tensions and be a new model for our great second life.



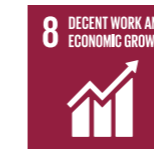
ACTION 1

Period

2019~

Budget (KRW)

226 trillion



Expand more opportunities for the Elderly

In 2018, the elderly and retired population who were re-employed was estimated to hit 67,943 persons and we plan to raise this number to 75,544 in 2019. Also, with the increase in the paid volunteer jobs, “Boram” jobs, about 2,500 elderly and the middle-aged people found new jobs in 2019, up 264 from 2,236 in 2018.

The 50+ Internship programs that included 100 people in 2018 will embrace 150

people in 2019 and the participants will vary from NGOs, social enterprises, cooperative unions, local businesses, and SMEs to provide in-depth understanding of the particular task.

Seoul will establish the “50+ Job Masterplan” and operate it in 2019 to develop longer-term employment & start-up model that is sustainable and fit for job trends for the elderly and the middle-aged.

Shocks and stresses	Aging society, unemployment, economic disparity, polarization
Resilience goal	Support the capacity of the 50+ generation to be re-employed and utilize the resources in solving local problems.
Department	Post-Retirement Support Division
Partner(s)	The 50+ Foundation, Korea Labor Force Development Institute for the Aged, Korea Association of Community Senior Club

SUPPORTING ACTIONS

Increase infrastructure to support the 50+

Seoul will develop the 50+ infrastructure to mobilize resources and create a customized 50+ job model. By 2021, the 50+ campus, a post-school for the 50+ generation preparing for new life transitions, will increase to six campuses, and consumer-tailored education programs will be developed. To 19 districts without campuses, new centers will be built.

Recognize social contribution of the 50+

The 50+ generation can provide good resources of Seoul and be helpful to especially marginalized groups. Through pro-bono activity of the 50+ generation, we can expect positive welfare effects. The 50+ Volunteer Groups will support single-person households, multicultural families, and the elderly on financial education, academic help for non-Korean students, housing developments, and lots of other benefits in areas where the 50+ generation have specialties in.

Support local microbusinesses

A select few with experience of running their own business will provide tips and know-hows to local microbusiness owners who are going through difficulties. They will go through quarter-by-quarter business consultations and in-depth analysis of the outlook of the market.



SUPPORTING ACTIONS

Initiative	Department	Explanation	Period	Budget
Increase infrastructure to support the 50+	Post-Retirement Support Division	Increase the 50+ Campus and the 50+ Centers	2019-2021	50 billion KRW
Recognize social contribution of the 50+	Post-Retirement Support Division	Support pro-bono services and operate the 50+ volunteer service	2019-2022	83.08 billion KRW
Support local microbusinesses	Labor and Livelihood Security Policy Bureau	Consult microbusinesses with financial difficulties	2019-2022	



The 50+ Foundation

The 100-year life, which has now become our reality, poses new challenges to our society. The journey to our increased life expectancy demands for new perceptions and changes in perspectives. The 50 Plus Foundation supports this new generation in search of new life paths and address challenges ahead.

The foundation hopes to cause a small wave of change that promises to bring a better future. Established as the first of its kind in Korea to support the 50+ generation plan for their future, Seoul intended to create a second life vision for them as they are our society's new opportunity and important social capital.

Thus, shifting in perception to view the elderly in a different image is needed. The foundation is preparing diverse consultations for the retired 50+ and utilizes the resources that the 50+ generation possesses through social participation and sharing experiences with youth. This 50+ policy initiative was selected as a case study by the OECD in the area of Inclusiveness and vulnerable populations.

PROGRAM 12 Microbusiness and the Self-employed

Microbusiness accounts for 83% of the total businesses of Seoul and 28% of the total number of workers, forming the backbone of Seoul's economy. Breaking it down by sector, wholesale and retail businesses are 29%, restaurant and accommodations businesses are 17%, and services are 7%, meaning most of them are directly related to the livelihood of the business owners.

Persistent recession and surging rental expenses and credit card fees may aggravate the profit, leading to the "crisis of the self-employed" that numerous microbusiness owners and the self-employed may end up closing down their businesses. Therefore, the Seoul Metropolitan Government adopted Zero-Pay to mitigate fee burdens for small business owners and will expand the benefits.

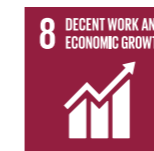


ACTION 1

Widen the social safety net for microbusinesses

Period
2018-2022

Budget (KRW)
27.34 billion



People who are running small businesses are more exposed to risks. Uncertainties facing microbusinesses can be weak business continuity, or a possibility for closing down their businesses. Thus providing a social safety net for these people is needed. Seoul will subsidize 30% of monthly insurance fees whose sales are below a certain amount. Furthermore, the beneficiaries supported by the "Yellow Umbrella Mutual Aid Fund" will be extended to newly registered microbusiness owners with annual sales below 200 million KRW who will be provided 20,000 KRW every month since 2019.

People whose businesses were closed down and had no problem ethically will gain a second chance to take the next leap. By 2022, 10,000 microbusiness owners who had to close their business will be

eased from financial burdens through debt relief program.

Long-term receivables will be purchased by the Korea Asset Management Corporation, and recipients of basic livelihood grants will be covered up to 90% of the original costs. The current number of 15 experts who provided consultation on legal disputes such as rental costs, taxation, labor and so on will increase to 25, so that people running a small business can reach out to get help anytime they want.

By connecting with the 50+ foundation, the self-employed and microbusiness community can get psychological consultations and career searching programs when they close their business. "Hope Camp" will give them opportunities to look for the second path and a stable economic foundation.

Shocks and stresses	Poverty, unemployment, business closure, crisis of the self-employed
Resilience goal	Support microbusiness owners financially for the second chance in case their businesses ended up in failure.
Department	Small Business Policy Division
Partner(s)	The 50+ foundation, Seoul Credit Guarantee Foundation

ACTION 2

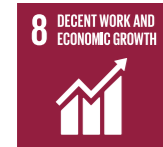
Encourage using Zero-Pay

Period

2019~

Budget (KRW)

3.87 billion



Shocks and stresses	Economic disparity, polarization
Resilience goal	By reducing the commission fee for Zero-Pay, both consumers and the franchise stores will be free from financial burden.
Department	Zero Pay Committee
Partner(s)	K-Bank, Payco, Kiosk Association, Korea Financial Telecommunications and Clearing Institute

“Zero-Pay” is a convenient payment service to lower settlement fees to zero for small business owners, joined by the Seoul Metropolitan Government, the central government, local districts, financial companies, and private payment companies. Zero-Pay is a direct transaction system where the money is transferred during the purchase from a consumer’s account to a seller’s account through the QR code with smartphones. The retailers with sales less than 800 million KRW the previous year do not have to pay any transaction fee, and the consumers will receive 40% of an income tax deduction as well as other discounts.

Thus, having more retailers that provide Zero-Pay services is very important. Since 2019, the registration process that was

once limited to paper form is now available online through PCs or tablet PCs, and the process will much shorter from 2-3 weeks to within five days. Furthermore, diverse payment including business operating expenses and public funding were able to be paid with Zero-Pay starting from April 2019.

To encourage more people to use Zero-Pay, Seoul will discount the utilization fee for public facilities and enable Zero-Pay application for public transportation.

For wider usage, within the second half of 2019, the contactless NFC payment, which is more convenient than QR codes, will be adapted to create a better payment setting for consumers.



SUPPORTING ACTIONS

Provide institutional support for micro-businesses

The Comprehensive Support Platform for Microbusiness, an integrated plan of finance and management to help microbusiness be self-sufficient, will be launched in 5 branches of the Seoul Credit Guarantee Foundation and will be incorporated into all districts by 2025. Also, mom-and-pop stores will be linked with local young artists for art marketing to help microbusiness. By combining art and interior, “Arterior” project will be practiced in all 25 districts in 500 stores to connect with 150 local artists.

Foster promising start-ups using big-data analysis

Seoul will help microbusinesses to thrive in a resilient and sustainable business ecosystem supported by big-data analysis. The City will provide the data about the 1,742 existing commercial areas and 260 additional special tourist zones and conventional market areas and adopt real-time Chatbot service in January 2019. This big-data system will provide risk factors of opening business in certain areas, expected sales, floating populations, and residing populations to give customized marketing strategy. Those who have completed the consulting service are eligible for loans up to 50 million KRW.

SUPPORTING ACTIONS

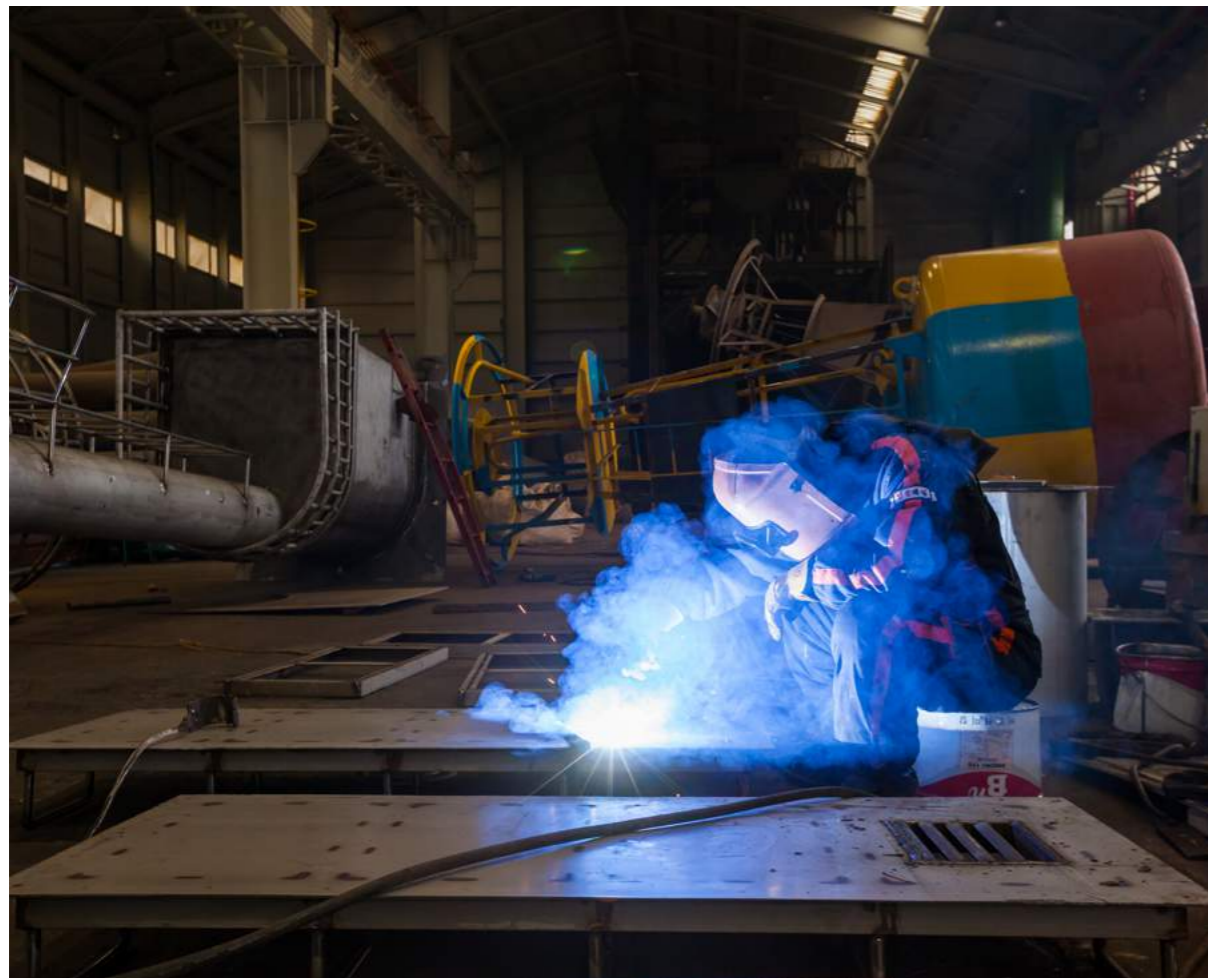
Initiative	Department	Explanation	Period	Budget
Provide institutional support for microbusinesses	Small Business Policy Division	Create a platform for comprehensive support for microbusiness	2018-2022	20 billion KRW
Foster promising start-ups using big-data analysis	Small Business Policy Division	Create a sustainable ecosystem for the self-employed business	2018-2022	12.48 billion KRW

PROGRAM 13 Respect for Labor

Of all the workers in Seoul, 33.9% are temporary workers and employed under a special employment arrangement. The labor market has become more polarized and most of the labor unions in Korea are organized in large companies with more than 300 employees, which leaves behind 73 thousand of workers in vulnerable areas. Thus, separate labor organizations in support with local communities to protect their rights are needed.

Though workplace accidents are repeatedly occurring, we do not have countermeasures to tackle industrial accidents, resulting in 50 deaths yearly. A term “outsourcing the danger” has newly coined in our society that temporary workers are involuntarily forced to work in more hazardous tasks. Therefore, we need a new labor safety plan specific to Seoul’s labor conditions to reduce the number of casualties in work-related accidents.

Furthermore, as of 2017, Korean employees worked 2,024 hours on average, 265 hours more than the OECD average and ranked second from the top. As the culture of overwork damages productivity, Seoul plans to run “Less Working Hours” model to limit the workweek to 40 hours, 1,800 hours annually.



ACTION 1

Guarantee the rights of vulnerable workers

Period
2018-2022

Budget (KRW)
400 million



Shocks and stresses	Polarization, economic disparity, aggravated labor environment, weak social safety net
Resilience goal	Create a labor environment where all workers efforts will be paid off.
Department	Labor Policy Division
Partner(s)	Ministry of Employment and Labor, Seoul Metropolitan Office of Education

Seoul upholds the three basic rights for the vulnerable labor workers and encourages them to form labor unions for mail delivery agents, designated drivers, and fast delivery persons. Also, Seoul will provide spaces and legal consultation for the associations as well as education and network programs with other unions.

The overall labor union participation rate is stagnated at 10% range in Korea. Thus, Seoul will operate the labor committee to represent the rights of labor workers and to serve the interests of workers, especially vulnerable workers such as temporary workers. By studying labor cases in other countries like Austria, Germany, and Luxembourg, we will come up with resolutions specifically fit for Seoul.

SUPPORTING ACTIONS

Create safer labor environment

Korea’s industrial accidents and deaths are two to three times that of other OECD countries. In Korea, Seoul ranked second after Gyeonggi Province. Therefore, by the end of 2019, Seoul plans to design the implementation plan and preventative targets of industrial accidents with the purpose to halve the number of industrial deaths by 2022. By dispatching Labor Safety Inspector, safety guideline will be prepared for the five most common industrial accidents, and the standards will be strengthened through the Labor Safety Committee.

Turn non-regular workers into regular workers, Reduce working hours, Increase wages

Among outsourced work in the private sectors, that which is considered of public concern will be turned into regular work. Also, excessive hiring of irregular workers will be discouraged, and a screening process will be mandatory when it is necessary to hire irregular workers.

Furthermore, through a trial operation by Seoul Credit Guarantee Foundation, Seoul will develop a model for 1,800 hours of average annual working hours.

SUPPORTING ACTIONS

Initiative	Department	Explanation	Period	Budget
Create safer labor environment	Labor Policy Division	Create Industrial Safety Master Plan and operate labor safety inspector program	2018-2022	250 million KRW
Turn non-regular workers to regular workers, reduce working hours, increase wages	Labor Policy Division	Propose zero irregular workers in the public sector and reduce working hours	2019~	1.63 billion KRW



Workers Participation in Management

As one of the Seoul Metropolitan Government's policies for labor-management, the cooperation selects one or two worker representatives and appoints them as non-executive directors to participate in board meetings.

This system enables labor-management relations to reduce conflicts and take a step towards positive communication and coexistence, further laying the groundwork for management innovation and economic growth. The European Parliament and Davos Forum also acknowledge the positive effects of the initiative.

As social conflict in Korea has caused severe economic losses, conflicts between social classes and between labor and management are significant factors in need of urgent improvement. By introducing Workers Participation in Management, Seoul was determined to minimize confrontational labor relations, realize transparent management through checks and balances by worker's participation, and improve enforceability and drive management innovation.

For stable operation, opinions of interested parties and experts will be collected to form the public consensus and establish and implement the system.

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PROGRAM 14 Expansion of Social Economy

The social economy is a way of ushering positive changes throughout Seoul to address social concerns, including low-growth trap, social polarization, and aging population. Every social enterprise created makes substantial headway in increasing social value and well-being of the community. Seoul boasts a burgeoning social economy that the total revenue doubled since its beginning in 2012. However, public awareness and the level of sufficiency need more room for improvement. Therefore, we need a regional strategy to leverage the social economy to maximize inclusive growth.

ACTION 1

Period
2019-2020

Budget (KRW)
3 billion



Support Social Enterprises and Cooperatives

As the very first city in Asia to adopt the Social Impact Bond (SIB) to the field of child welfare, Seoul not only serves as a breakthrough model to solve welfare problems but also encourages the citizens and other cities to participate in minimizing the expenditure of public finances. When the first project is completed in August 2019, we will evaluate its outcome and begin the second project. If the project is successful, of the 1 billion KRW of total investment, 321 million KRW will be granted.

The next project will be designed to solve youth unemployment problems to provide aides to low-income youth aged between 19 and 34. Five hundred young people will be given customized programs for their career for three years. The agency will analyze the employment rate every year and provide incentives accordingly. When this project is settled down, the subject for the following projects will vary from birthrate, senior care, low-income families, and universal welfare system.

Shocks and stresses	Economic disparity, polarization, demographic changes, aging population
Resilience goal	Expand the scope of SIB into the field of youth unemployment to provide more benefits to low-income households
Department	Social Enterprises Support Division
Partner(s)	Ministry of the Interior and Safety

SUPPORTING ACTIONS

Support youth social entrepreneurship and investment

Seoul Social Venture Hub Center near Seolleung Station will open in 2019 to provide space for venture incubation and consultations for skills development, commercialization, and legal advice for 50 social venture companies. Through the Social Venture Accelerating Program, socially innovative companies will be fostered, and 42 social venture companies will receive customized consultation. Through PPPs with SK Social Entrepreneurship Studies, Seoul will subsidize 50 million KRW per company that went through the Social Impact Bond program.

Foster resident engagement in social economy

Seoul will help to find new entrants of the social economy and develop a business model in the apartment complex in order to expand the social economic participation of the inhabitants and to open the market. Residents themselves will develop a path for other residents to participate as consumers, investors and entrepreneurs of the social economy, address community problems, and support up to 200 million KRW for three years.

In addition, a permanent offline market platform with a total of 140 companies including social ventures, regional cooperatives, and youth businessmen in the field of culture and arts will promote the social economic representative brand market. From April to June every year, Seoul will host new value-added markets and outdoor events such as Ttukseom and Gwangjin Bridge every Friday and Saturday.

SUPPORTING ACTIONS

Initiative	Department	Explanation	Period
Support youth social entrepreneurship and investment	Social Enterprises Support Division	Promote PPPs to nurture social ventures	2018-2022
Budget			4.7 billion KRW
Foster resident engagement in social economy	Social Enterprises Support Division	Discover agenda for economic community and propose brand markets for local residents	2019~
			1.7 billion KRW





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Sharing City, Seoul

Seoul proclaimed its Sharing City Seoul project on September 20, 2012, along with an implementation plan that ensures people to practice the culture of sharing in their lives. Seoul sees the Sharing City Seoul project as social innovation designed to create new economic opportunities, restore solid relationships, and reduce the wasting of resources to resolve urban economic, social, and environmental problems altogether.

Furthermore, Seoul is set to make headways in other policies that will respect and promote private-sector capabilities, as well as strategies that require the public sector to open their resources for citizens.

Sharing allows us to gain more benefit with the limited resource since it enhances its usability. Therefore, the government can provide more services to the citizens with a smaller budget. New types of jobs will be created since ICT will link various resources to those who need them, enabling new venture businesses to become viable with small capital.

For example, the Town Community Project allows residents to raise and take care of their children together, giving them opportunities to discuss how to improve their lives, create jobs, and hold festivals.

Seoul's sharing policy received the Gothenburg Award for Sustainable Development for making Seoul one of the world's first sharing cities. Also, it was selected as Collaborative marketing and Social Innovation at Place Marketing Forum 2016 in France.

What Next?

Seoul's Resilience Commitment

For implementing Resilient Seoul, Seoul designated the Deputy Mayor of Safety Management as the Chief Resilience Officer of Seoul and the position will be permanent. To assist the CRO, the Seoul Resilience Team will continue to monitor and develop new resilience agenda items and design initiatives for building resilience networks with cities around the globe.

Role of the Seoul Resilience Team and its resilience plan

- Seoul' Chief Resilience Officer: manage urban resilience of Seoul
- Seoul Resilience Team: evaluate the implementation of Resilient Seoul, foster international cooperation through the 100RC network, discover fresh ideas to boost Seoul's resilience, develop an evaluation index to review Seoul's resilience.
- Resilience Steering Committee: evaluate newly implemented projects and provide consultations

For what	When	Who	What we do
Evaluation Meeting	End of Year	CRO Team leader Steering Committee	<ul style="list-style-type: none"> • Evaluate implementation progress • Release quarterly report on resilience
Progress Monitoring Meetings	Every quarter	CRO Working-level staff	<ul style="list-style-type: none"> • Monitor and measure the city's resilience performance • Incorporate best-practices of cities around the world • Institutionalize new practices

Seoul's resilience-building plan will be specified into short, mid, and long term, and investigate how we can turn challenges into opportunities. The cross-departmental collaboration will be the key aspect of driving our innovative plan into actions.

As part of our effort, Seoul will host the 1st Seoul International Urban Resilience Forum in September 2019 and hold the forum annually. Leaders of city governments around the world, and experts in urban issues will be welcome to join in the sessions to share best practices in the field and exchange insights and ideas. At the Forum, Resilient Seoul will be officially released.

The Forum will be a platform to bring together resilience leaders around the world to build partnerships and strengthen the global network of resilience.

International Urban Resilience Forum Seoul 2019

- **Date/ Venue:** Monday, September 23rd – Tuesday, September 24th, 2019/ Lotte Hotel Seoul
- **Host:** Seoul Metropolitan Government, UNDRR
- **Organized:** Seoul Institute of Technology
- **Sponsors:** Ministry of the Interior and Safety, ICLEI, WeGO, CITYNET, Academia, Associations
- **Participants:** About 300 persons (Mayors, city experts, citizens)
- **Purpose:** To enhance the global network of cooperation to address urban problems of cities around the globe



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Seoul Innovation Bureau
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Seoul Metropolitan Fire and Disaster Headquarters
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SMG-funded Institutes

Seoul Institute of Technology
Seoul Institute
Seoul Volunteer Center
Seoul Energy Corporation
Seoul City Gas
Seoul Design Foundation
Seoul Housing & Communities Corporation
Volunteer Centers in districts
The 50+ Foundation
Seoul Youth Guarantee Center
Seoul Credit Guarantee Foundation

Seoul Districts

25 Districts
Village communities
Autonomous resident councils

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Public Agencies

Ministry of the Interior and Safety
Ministry of Employment and Labor
Korean National Police Agency

Seoul Metropolitan Office of Education
Korea Financial Telecommunications & Clearings Institute
Korea Labor Force Institute for The Aged
24 Fire Departments
Seoul Welfare Foundation
Seoul Foundation of Women & Family, Healthy Family Support Center

Private Organizations

KT Corporation
Social enterprises
Seoul Cooperative
Lab2050
Seoul Forum
Korea Association of Community Senior Club
K-Bank
Payco
Seoul Business Agency
FOMANDESGIN

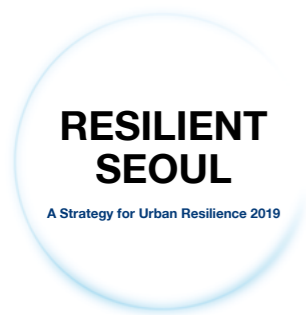
For Safe Seoul For Resilient Seoul

Smart Safe City for All, Seoul



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