



**True Smart and Green City?**  
8th Conference of the  
International Forum on Urbanism



*Conference Proceedings Paper*

## **2030 Seoul Plan: Urban Foresight Focusing on Reflexive Governance and Resilience**

**Jungbae An <sup>1,\*</sup> and Junhan Kim <sup>2</sup>**

- 1 Yonsei University / Department of Political Science, Yonsei University, 50 Yonsei-ro, Seodaemun-gu, Seoul, 120-749, Korea.
- 2 Yonsei University / Department of Urban Planning and Engineering, Yonsei University, 50 Yonsei-ro, Seodaemun-gu, Seoul, 120-749, Korea.

\* Author to whom correspondence should be addressed; Tel.: +82-2-2123-2940; Fax: +82-2-393-7642; E-Mails: [anjungbae@yonsei.ac.kr](mailto:anjungbae@yonsei.ac.kr)

---

**Abstract:** Foresight approach has received increasing attention on future policy-making over a few decades. Adaptive foresight has recently emerged to emphasize the role of diverse individual actors and external development. With the highlight of the planning process with adaptive foresight approach, reflexive governance shows a good model for the proper structure of governance that urban foresight may seek. Still despite the importance of guiding orientation towards future, this was under-estimated in foresight studies. Hence, this paper suggests an integrated framework by considering urban resilience as a future orientation in which urban foresight may seek, with the combination of adaptive foresight and reflexive governance addressed by Weber (2006). On focusing adaptive foresight, reflexive governance, and urban resilience, this paper develops the analytical framework of urban foresight from various related literature to evaluate urban plans. As a case of an urban plan in megacity level, 2030 Seoul Plan, a 20-year long-term basic urban plan of Seoul, explicitly shows a remarkable and meaningful turn from conventional planning approaches to participatory foresight approaches, triggered by strong political leadership. This paper explores whole processes of 2030 Seoul Plan that has overcome the inertia of path dependency, and analyzes main drivers and barriers for this change. The analysis provides an insight regarding how the participatory urban foresight at megacity scale can be implemented. Four findings are mainly addressed in this study. First, integrated knowledge was generated among three main participants groups including citizens, experts, and different departments of Seoul Metropolitan Government (SMG). Also, the adaptivity of

strategies and institutions, as well as learning was developed during the processes of 2030 Seoul Plan. The new cooperative cultures and interactive strategies were developed by inclusive discussion among the participants. Learning the process can be also found from the processes, yielding positive outcomes. Thirdly, citizen participatory planning process makes the plan continuously regardless of the short-term electoral period. Finally, iterative and participatory goal formulation was planned but not yet implemented in 2030 Seoul Plan. As this was established recently, further research is required to look into this more thoroughly.

**Keywords:** Adaptive Foresight; Reflexive Governance; Urban Resilience; Basic Urban Plan; 2030 Seoul Plan

---

## 1. Introduction

Foresight approach has played an important role in future policy-making for a few decades. Unlike forecasting that tries to estimate possible futures, *foresight* is a process to navigate and shape futures with various actors [1]. While the early foresight approach focused on Delphi method, the broad participation of various actors is more widely adopted recently along the emerging long-term planning regarding system transition toward sustainability and resilience [2]. Hence, foresight is necessarily related to long-term planning processes as it is from future navigation to decision making through involving various actors. Recently, the adaptive planning is emphasized in foresight process as conventional foresight focused mainly on collective future shaping ability, overlooking the fact that decision-making is subject to individual actors and external development. *Adaptive foresight* emerged in this context, bridging adaptive planning and foresight [3]. Also, *reflexive governance* is addressed to foster learning process and effective implementation in adaptive foresight process [2, 4].

However, in adaptive urban foresight, what is a desirable future that the actors have to seek? In which direction should adaptive urban foresight take? Despite the importance of providing directions, these questions are under-estimated in previous foresight studies. This paper thus suggests *urban resilience* as the orientation of urban foresight to guide foresight process to cope with unexpected external disturbances of the urban area along with adaptive foresight and reflexive governance [14].

In South Korea, the basic urban plan is a comprehensive plan to suggest a long-term (20 years) policy direction for the improvement of quality of life and environmentally sustainable development with utilizing limited resources [5]. Although basic urban plan was underestimated as small routinized project of department of urban planning of Seoul Metropolitan Government (hereafter, SMG), new mayor Wonsoon Park's regime regeneration makes it revitalized as a successful participatory urban planning. With various citizen participation events and deliberate discussions on vision and pathways of Seoul to go to resilient city, we can find 2030 Seoul Plan as a successful case of urban plan in terms of urban foresight focusing on adaptive foresight, reflexive governance and urban resilience.

To analyze 2030 Seoul Plan, we began with a literature review referring other scholars' works and a close examination of SMG's official documents. Also, we interviewed a core member of the department

of urban planning in SMG to clarify the findings. In this study, we aim to examine Seoul's basic urban plan with the analytic framework we compound. In the following section, we provide a theoretical framework to assess urban basic plans. And we analyze 2030 Seoul Plan with the framework suggested in the previous section. After that, we suggest lessons learned and some discussions and concluded with a brief policy suggestion.

## **2. Analytic Framework for Urban Foresight**

This paper extends the discussion of Weber through adopting the main ideas of adaptive foresight and reflexive governance but also incepting the resilience concept [2].

### *2.1. Process: Adaptive Foresight*

#### 1) Phase 1 Looking back: problem definition, system delimitation, and analysis

Before looking ahead, looking backward and analyzing current development is required. It includes gathering information, defining problems and clarification of elements of the innovation system. Actors should be necessarily recognized as well as the decision-making process and interactions among them. Each actor has its knowledge base, and this should be also addressed. The structure is also a key part that constrains the actor's behavior.

#### 2) Phase 2 Looking ahead: Combining exploratory and normative elements

The looking ahead phase consists of explorative scenario, specification of the future and developing norms. It is to identify possible future scenarios, and deeper analysis of the future for problem identification and coordination and norms development by the actors. But developing norms require more strong orientation. This paper thus proposes the resilience for complementing this.

#### 3) Phase 3 Pathways towards the future: Multiple backcasting

Rather than looking at a single desirable future, multiple backcasting recognizes possible futures and requires identifying barriers and incompatibilities. Clarification of technologies, values and actors' interests need to be assessed as well as actor-networks and context conditions of critical innovation.

#### 4) Phase 4 Portfolio analysis: robust and adaptive policy options

From the developed, refined and analyzed individual scenarios, policy options would be assessed, and adaptive options would be identified. Emerging technologies and policy design should be considered for today's policy-makers.

#### 5) Phase 5 Policy implementation and learning: Monitoring, shaping and adjusting the future

It requires a comprehensive evaluation of policy design, constant feedback system and iterative process through which learning can take place. But in practice this is difficult to be realized but will be repeated every few years.

### *2.2 Structure: Reflexive Governance*

As formulated by Voss, et al., five main components are required for Reflexive Governance: integrated knowledge; considering long-term and systemic effects; additivity of strategies and institutions; iterative participatory goal formulation; interactive strategy development [5].

#### 1) Integrated (trans-disciplinary) knowledge

At this stage, a corporation of a variety of perspectives and attitudes of experts and stakeholders enables inter-disciplinary and trans-disciplinary knowledge production based on a participatory process. It also holds true with respect to expectations, goals values, due to the incorporation of normative elements in the methodology.

#### 2) Anticipation of long-term and systems effects of action strategies

Usually, a longer time horizon is needed at this stage in order to realize and visualize the changes/transitions. Furthermore, it is certainly possible to use it for anticipating long-term systems changes as part of the scenario and policy portfolio development process. Impacts assessments, especially of long-term impacts, can in principle be conducted within the context of each scenario, but the high degree of uncertainty associated with these assessments calls for a very cautious interpretation.

#### 3) Adaptivity of strategies and institutions

Adaptivity is one of the key concepts underlying the proposed methodology. The notions of robust and adaptive policies and policy portfolios interrelated conventional scenario development and policy strategy development. The policy decision of an individual actor plays an important role in shaping future scenarios in a particular field, but it is by no means the only or most decisive force. It is often necessary to adapt to developments brought about by exogenous events, by other actors' strategies, by new technological opportunities and in particular by international developments.

#### 4) Iterative participatory goal formulation

This requirement relies on the involvement of a broad range of stakeholders. Wide participation is even crucial for long-term, sustainability-oriented issues, not the least in order to ensure public support for issues beyond the short-term agendas. The claim for making this process a continuous or at least iterative activity would then ensure that these goals are recurrently put into question, based on the new scientific and policy insights gained in the meantime.

## 5) Interactive strategy development

It requires a joint space where different actors come together to discuss scenarios, goals and policy options considered to be a soft coordination mechanism of their heterogeneous strategies. By debating problem perceptions, long-term expectations, scenarios and pathways, a transparent, though sometimes diverging view on different futures is reached that serves as a basis for discussing strategic needs and activities. At best, coalitions are built that can move joint agendas forward.

### 2.3 Orientation: Urban Resilience

In urban policy making, the emergence of alternative ways such as foresight instead of conventional ways is to tackle the new wicked problems and seek sustainability of the urban utility system. The challenges and risks of urban areas are increasing, and the problems are getting more complex to tackle without concerning the urban system as a whole. System perspective is critical, in this context, hence the orientation of the plan have to do with the proper system approaches dealing with emerging problems.

The derivation of the term resilience is *resilire* meaning ‘spring back’ in Latin [6]. In the tradition of resilience studies in system engineering discipline, resilience is defined as “The capacity of a social-ecological system to cope with a hazardous event or disturbance, responding or reorganizing in ways that maintain its essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation [7]”. To apply it to a social system like the urban system, Holling [8] focused on the capacity of group or community. For the city disaster prevention, resilience can be referred as “comprehensive ability to response for adapting, recovering, and maintaining sustainable city toward the disasters in terms of physical, ecological, social, urban, community, and personal aspects [9].”

In the urban resilience studies, scholars focus on the vulnerability of the urban area. Urban areas have been developed near the coast or river, and they are highly dense with people, residences, physical assets, industries, and wastes. Often urban authorities experience the shortages of resources and will, urban areas are exposed to its vulnerability and maladaptivity along the changing ecological environment. To cope with the urban vulnerability to emerging risks, it is critical to concern social norms, diverse culture, drivers of economic development or seeking synergy between the governances from different urban environments.

Some frameworks suggest the elements for the urban framework. The Megacity Resilience Framework highlights human relationship in the common area between formal and informal realms, and ACCCRN (Asian Cities Climate Change Resilience Network) shows the concern for urban scale institutions along domestic and international actors regarding global environmental change [10]. In the meanwhile The World Economic Forum provides the framework composited with 5R elements such as robustness, redundancy, resourcefulness, response, and recovery and Arup supported by Rockefeller Foundation suggests qualities, reflective, robustness, redundancy, flexibility, resourcefulness, inclusiveness and integrity as the elements of urban resilience framework focusing on participation and governance.

From the various studies regarding the respective area of studies on resilience, this study analyzed the 2030 Seoul Plan focusing on its orientation if it seeks more resilient urban area with related elements introduced above.

### 3. Case Study: 2030 Seoul Plan

#### 3.1. Role of Seoul Basic Urban Plan

2030 Seoul plan is a Basic urban plan of Seoul. Before diving into 2030 Seoul Plan itself, the concept and the role of the Basic urban plan will be briefly introduced. The basic urban plan is a comprehensive plan to suggest a long-term (20 years) policy direction for the improvement of quality of life and environmentally sustainable development with utilizing limited resources. It makes the direction of policy in each domain consistently. It comprehensively contains various domains such as the economy, environment, transport, infrastructure, culture, and welfare [11]. Article 2 of National Land Planning and Utilization Act defines the basic urban plan as follows.

*“The term "basic urban or Gun plan" means comprehensive planning for setting basic spatial structures and long-term development directions for the jurisdictions of the Special Metropolitan City, a Metropolitan City, Special Self-governing City, Special Self-governing Province or a Si/Gun, which forms guidelines for formulating urban or Gun management plans [12].”*

As the basic urban plan is to draw a whole picture and guide directions for long-term development, it is different from urban management plan that gives more detailed plan within a specific domain.

*“The term "urban or Gun management plans" means the following plans on land utilization, traffic, environment, scenery, safety, industries, information and communications, health, welfare, security, culture, etc., which are formulated to develop, improve and preserve the Special Metropolitan City, a Metropolitan City, Special Self-governing City, Special Self-governing Province or a Si/Gun [12].”*

Hence, the basic urban plan can be understood as a comprehensive and guiding plan, which aims at consistent urban policies in the future.

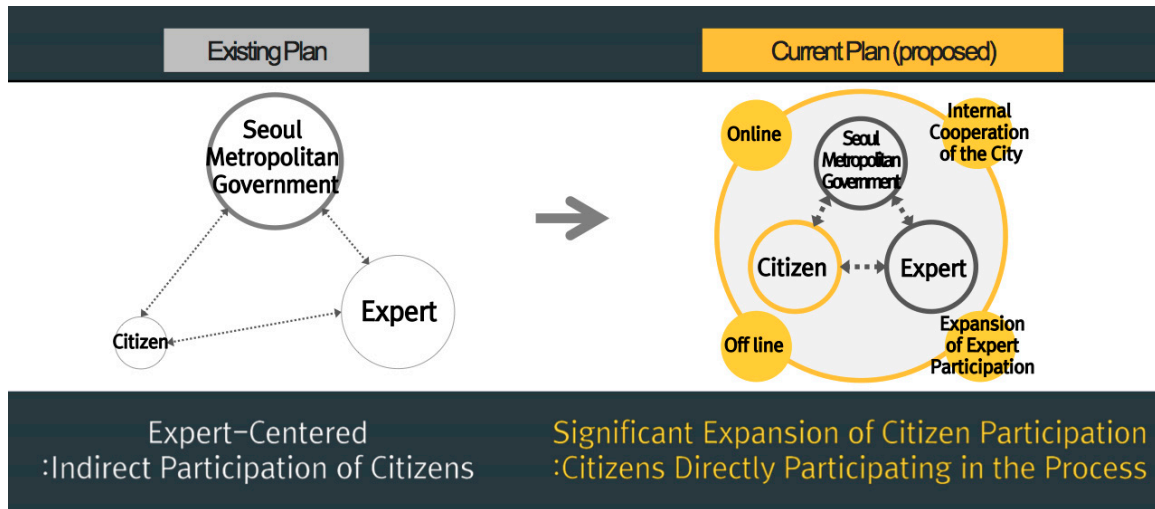
#### 3.2. Major Characteristics

The duration of 2030 Seoul Plan is 2010-2030. And it was conducted in Seoul Metropolitan City area (605.96Km<sup>2</sup>). Four major distinct characteristics of 2030 Seoul Plan can be compared to the existing Basic urban plan [11].

##### 1) Direct citizen participation

The major change that can be observed in 2030 Seoul Plan compared to existing Basic urban plan is the role of citizens. The existing plan only allowed indirect citizen participation, whereas 2030 Seoul Plan directly involved citizens. The vision and the issues were developed based on the deliberation of citizens.

**Figure 1.** Direct citizen participation.



(Source: SMG [11])

2) Different format

Although there was a certain format for Basic urban plan, decided by the national government, 2030 Seoul Plan did not follow the format as the existing format was too comprehensive for citizens to understand fully. 2020 Seoul Plan is more comprehensive as it consists of specific plans for 12 domains. Instead, 2030 Seoul Plan adopted a more succinct and different form that contains five key issues and 17 goals so that the citizens can easily understand, and the plan can be more strategic and holistic.

3) Inter-department cooperation

The existing plan had been driven and established only by the Urban Planning Bureau and focused on spatial and physical plan. It had two weaknesses. First it had a lower impact on the other department as they did not consider the Basic urban plan when establishing their plan. Secondly, each part such as welfare, economy or environment was very comprehensive in its part but not consistent with the others as there was no communication. 2030 Seoul Plan, however, is driven by Urban Planning Bureau and Management & Planning office, and cooperated with every office, bureau and headquarter.

*“The existing Basic urban plan did not work well as the other departments did not consider it when establishing their plan. The public officer has been used to work separately on each domain. But the problem is that it is just an individual part but not related each other. In this context, 2030 Seoul Plan is a new attempt to realize inter-department cooperation. [13]”*

4) Monitoring and evaluation

2030 Seoul Plan will be evaluated and monitored every year and Seoul Institute is now developing monitoring and evaluation system. The feedbacks will be accumulated and reflected in next Basic urban plan [13].

3.3. Key Issues, Goals, and Strategies

5 Key issues were drawn by citizens as below:

Issue 1. Together Without Discrimination, People-centered City

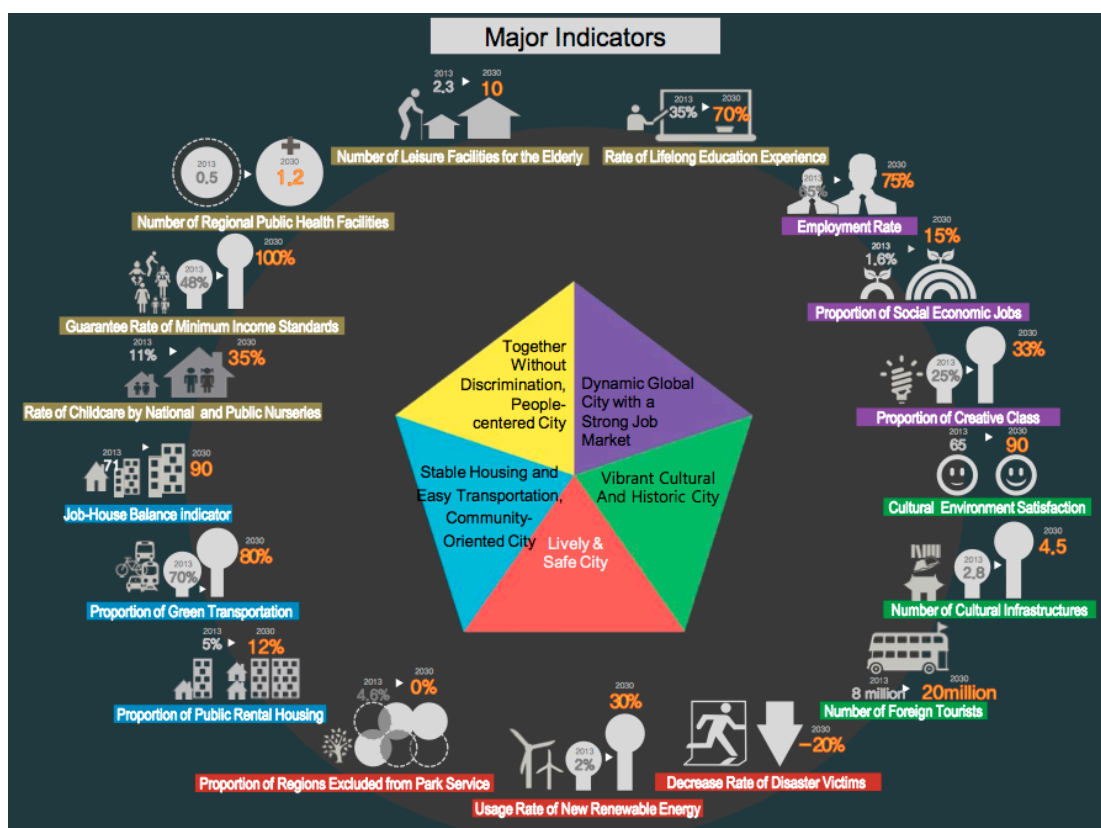
Issue 2. Dynamic Global City with a Strong Job Market

Issue 3. Vibrant Cultural & Historic City

Issue 4. Lively & Safe City

Issue 5. Stable Housing and Easy Transportation, Community-Oriented City

Figure 2. five issues and 17 goals.



(Source: SMG [11])

3.4. Milestones

- 2009.1 Began re-constructing of Basic urban plan
- 2009.2-9 Literature review, design structure, discuss vision
- 2009.3-12 Expert Forum (11 times)
- 2009.8-11 2 Surveys (1500 citizens, experts, practitioners)
- 2010.1-2011.2 2030 Seoul Plan (DRAFT\*)
- 2011.4-5 Press briefing, regional briefing, public hearing
- 2011.6-7 Expert Forum (twice), Coordination of related departments



2011.10	<i>Mayor Wonsoon Park elected</i>
2011.8-10	Reviewed DRAFT* and revised the further process to citizen-participatory way
2011.12-2012.7	Expert Advisory Group meeting (5 times)
~2012.7	Expert Advisory Group for restructuring DRAFT*
2012.8-9	Setting up the vision and goals of Expert Advisory Group
2012.9-10	Setting up the vision and goals of citizen participants
2012.11~	Constructed Steering Committee for planning
2012.11~2013.6	Constructing Plans by six key issues
2013.3	Regional Workshops (twice)
2013.3-8	Drafting plan
2013.9	2030 Seoul Plan (DRAFT), Press Briefing
2013.10~	Deliberate review along Regional briefings and Public Hearings

### 3.5. Main drivers and barriers

The two major drivers, political will, and social demand could be found in 2030 Seoul Plan. After Mayor Park had elected, the existing draft was redeveloped, which could be seen on milestones, to include citizen participation. However, the political will was not sufficient to make a change without social demands as it required huge resources to return the draft and redevelop with completely new methods that had not been done previously.

*“So two main drivers are Mayor Park’s political will and macro trends. Without these two things, the 2030 Seoul Plan cannot be born as it required a huge amount of administrative efforts and budget [13].”*

Still, the first time for doing something in an unusual way always makes challenges. The major barrier of 2030 Seoul Plan is the communication and cooperation among citizens, SMG officers, and experts. First of all the plan was established by citizens, but experts played a crucial role in synthesizing what citizens produced as citizen lacks of expertise. However, experts and citizens used different language. Public officers had to manage and organize this procedure. It needed longer time and more efforts.

Also, the inter-department cooperation was not an easy task. Every department is very busy and has its tasks. In order to cooperate properly, Urban Planning Bureau officers asked several times to achieve this. There had been few experiences for strong cooperation among inter-department.

Another difficulty was a consensus among various experts. As there were various experts, it was difficult to reflect all the things into the plan.

*“There was also a 2030 Seoul Plan establishment committee and citizens were also one of the members along other experts. However, as citizen knowledge is not expertise, the harmony between the expert and citizens were quite difficult. However, we cannot discard citizen opinions as citizens expressed their complaint that why then citizen participation was done. If we do this with Seoul Institute, it could have been done within three months, but this procedure takes much longer, and the public officer requires more work. ... Other bureaus, offices and headquarters are very busy, so they are not that*

*cooperative. We tried to ask many times to cooperate with us, which makes us quite demanding ... The urban experts said that it was easy earlier as there were only urban planning experts. However now with welfare, culture and history experts it becomes more difficult as they want their opinions to be reflected. So it takes much time, and it is quite difficult how their opinions can be incorporated into urban planning context [13].”*

#### **4. Analysis Results and Discussion**

##### *4.1. Adaptive foresight*

###### Phase1 Looking back

Regarding the problem definition and system delimitation, socio-technical system analysis is not considered in 2030 Seoul Plan. Also, there is no consideration regarding future technology although the technology takes a crucial role in the future. For example, when we see one of the goals, the green transportation establishment, the strategy mostly focused on infrastructure systems such as metro infra, transfer center, and bus lane improvement. But new technology such as electricity, hydrogen vehicles, and fuel cells buses never mentioned. Not only technology, however, social perspectives regarding cultures, user behaviors, and cognitive change should be considered as well, which means a process to identify and analyzes system is required.

###### Phase 2 Looking ahead

When we see the goal itself, a single desirable future value has been drawn from citizens. However, when establishing a goal, broader alternative futures needed. Exploratory scenarios can help to identify not only the desirable future but also other possible futures. Once drawn vision from citizens, it needs to be adjusted with the other relevant stakeholders.

###### Phase 3 Pathways towards the future

As multiple backcasting is not reflected, we can assume this as an alternative approach. From the future alternatives, we can conduct multiple backcasting to set policy portfolios. Also, the specific policy timing is not suggested in 2030 Seoul Plan. To facilitate an appropriate implementation, short-term specific actions should be concretely addressed. Policy portfolios and monitoring within specific system are also required

###### Phase 4 Portfolio analysis

The portfolio analysis requires an assessment of policy options. But this concept is not applied in 2030 Seoul Plan. By having different options, 2030 Seoul Plan can secure robustness as the plan can adjust its policies depending on the uncertain circumstances in the future. Also, as addressed earlier, emerging technologies should have been considered in the plan.

## Phase 5 Policy implementation and learning

2030 Seoul Plan contains 17 indicators that were made to evaluate the achievements of 5 issues, but there are only quantitative indicators. For example, as for the green infrastructure, the indicator is to increase green transportation mode split from 70% to 80%. However, the quantitative indicators has a limited role in evaluation as the figure does not tell everything. Hence, the more comprehensive and qualitative indicators should be made to evaluate the achievements properly.

Regarding learning, however, it is quite promising as 2030 Seoul Plan will have a yearly monitoring and evaluation system. Still, how the feedbacks could work depends on the further development. 2030 Seoul Plan will accumulate those feedbacks and reflect them in next Basic urban plan.

### *4.2. Reflexive Governance*

#### 1) Integral (trans-disciplinary) knowledge

SMG (Seoul Metropolitan Government) conducted two surveys. One was conducted mid-2009 when the 1st draft had been initiated. The target of the 1st survey was 1,500 citizens, as well as 440 experts and officials, and the questions were about the future image of Seoul and key issues of Seoul in the coming future. Specifically, survey questioned (1) present image and future image of Seoul, (2) changes of Seoul and direction of reaction, (3) satisfaction of living in Seoul, (4) satisfaction of regional living condition, (5) utilization and direction of improvement of Urban Basic Plan, (6) direction of construction of vision and key goal of Seoul and (7) direction of policy of each part. The answers were tallied and categorized as 'citizen', 'expert' and 'city officials', and played the role as the basis of discussion in constructing draft. But in this part of drafting, the draft was constructed in old manner that the only urban planning department is working on.

After new mayor Park had been elected, Park's preparation committee wanted a major change of this stereotyped planning process. The 2nd survey was conducted in the context of new mayor Park and his committee's leadership in September 2011. Which targeted 1,500 citizens rather than the composition of citizen, expert and official as the 1st survey did. From 2 surveys, SMG extracted a present image of Seoul, the future image of Seoul and key issues of Seoul. The vision and key issues were not so different between 2009 survey and 2011 survey or before and after Park's leadership. But in terms of process, Seoul Basic Plan could get reputation and potential legitimacy from the citizen-focused process.

Seoul Basic Plan also introduced Multi-stakeholder participation model to focus more on citizen participation. This scheme was also highly motivated and adopted by new Mayor Park. The structure of opinion group was formed as steering team (officials of SMG), Expert Advisory Group and Citizen Participants. As steering team, all department of SMG participated in planning meetings that were coordinated by Urban Planning Department of SMG. Expert Advisory Group was formed by members recommended by each department of SMG. The members of Expert Advisory Group met 11 times in 2009 to initiate the planning process and to introduce main agenda. After new mayor Park took office, they remain and held Expert Round Table twice in 2009-2011. Citizen Participant Group was the most significant form after Mayor Park took office and changed the scheme of Seoul Basic Plan. Expert Advisory Group discussed and decided to select 100 members of citizens as Citizen Participant Group by random sampling. Although random sampling of selecting 100 members is not quite statistically

exquisite nor the methodology for securing proper representability, SMG decided to see it as the neutralist way of selecting members. The way of decision-making in Citizen Participant Group is deliberation and voting. Deliberation is considered as a top priority, but when there is very hard to decide with deliberation, Citizen Participant Group used voting for decision.

Within this structure, Urban Planning Department of SMG kept revising draft after each discussion of each group.

Additionally, SMG assigned Steering Committee of 2030 Seoul Plan to spread and diffuse the plan and planning process to other areas. 108 members of the steering committee were consisted of citizens, experts, SMG officials, and members of Congress of Seoul.

## 2) Adaptivity of strategies and institutions

To ensure 2030 Seoul Plan to be further innovative and adaptive in planning, Urban Planning Department is constructing proper review system. With the contract with Seoul Institute, the proposal of Annual review system of 2030 Seoul Plan will be constructed by Seoul Institute in early 2015. The proposal is expected to include how to revise the long term Urban Basic Plan continuously, whether and how related sectors adopted and utilized the 2030 Seoul Plan and how to enhance the diffusion of 2030 Seoul Plan.

Legally, Urban Basic Plan has to be revised in every five years. Within revision process, SMG officers are expecting revision process will also be in participatory way as it was constructed.

## 3) Considering long-term systemic effects

One weak point of 2030 Seoul Plan is the approach of the long-term plan. One example is that it is not significant that 2030 Seoul Plan focused on distant side effects and long feedback loop in the context of moderated interaction of stakeholders. Hopefully, Annual review system of 2030 Seoul Plan could include the scheme of considering long-term system effects and adaptivity.

## 4) Iterative participatory goal formulation

With 10 million citizens, it is not easy to construct iterative participatory discussion for goal formulation practically. Urban Planning Department is now considering to build effective online feedback system. (Which is also under development by Seoul Institute.)

## 5) Interactive strategy development

As focusing on citizen participation, 2030 Seoul Plan achieved fruitful interactive strategy development. The first aspect is social learning among stakeholders. At the beginning of Citizen Participant Group meetings, urban planning department, and experts showed the role of the urban basic plan, the role of citizen participant group and key issues of planning. This capacity building process was helpful for citizens to understand their role effectively and to know how to contribute intensively and extensively for the discussion divided on each key issue.

The second aspect is institutional learning. Experiencing participatory process, officials of SMG acknowledged the efficacy of the participatory planning. Before the 2030 Seoul Plan, Urban Basic Plans

were not paid attention due to the little efficacy for various departments that were quite in silo system and to the frequent changes by changing city regime or mayor. But in the planning process of 2030 Seoul Plan in participatory way, city officials acknowledged that the new mayor cannot deny or easily modify the plan constructed by various participants. So they can expect the guaranteed implementation of the plan. Also, the cooperation with departments increased. Although between before and after Mayor Park, there was little change in contents of draft, big changes were in structure into focusing on key issues (rather than focusing on old-school style departments or regions) that made related departments have to co-operate with each other. It also made Urban Planning Department, as the coordinating department, understand the detailed role of other departments. This cooperation experience could lead to diffusion of the participatory planning. Mayor Park and Urban Planning Department is now developing Urban Planning Charter to spread and diffuse the achievements in planning 2030 Seoul Plan to other cities and areas.

The third aspect is additional institutional learning. Urban Basic Plan is independent plan constructed city level. But it should still be reported to Ministry of Land, Infrastructure and Transport (MLTM) to help consistency with other plans. But the changed structure, which is focused on key issues rather than the departmental division of labor, was not suit for the criteria of the MLTM, so SMG had to make an additional report for with traditional formatting. To change the tradition and diffuse the participatory planning more, SMG claimed that the criteria of MLTM needs to be modified in regards to the participatory approach as 2030 Seoul Plan experimented.

The last aspect is networking. After the planning, citizen participants gather by themselves and hope to participate in other planning such as citizen participant group for urban planning charter [15].

### *4.3. Urban Resilience*

Five key issues of 2030 Seoul Plan were drawn by citizens. From the *2030 Vision of Seoul*, 'Happy City of Citizens with Communication and Consideration', seven goals are desired by citizens, and they are mediated by experts as five key issues as shown in Table 1.

Goals and strategies showed above introduce the vision of 2030 Seoul Plan in various aspects in terms of resilience introduced in the analytic framework. First of all, it clarifies the strong concern on social issues including increasing elderlies, minorities, gender and social care issues. At that, we can find the attempt at correlating urban development and existing social issues in 2030 Seoul Plan instead of centralizing the efficient economic development that was realized by the participatory process. Second, it deals with economic deprivation. Since the Asian financial crisis in 1997 and the global financial crisis broke in 2007-2008, jobless has been the nationwide problem in South Korea and has required political interventions such as job-creating policy. The strategy of the Creativity and Innovation based economy relates upbringing policy of social economy such as social enterprises or cooperatives that SMG is pushing ahead and tries to transform the Seoul's economic system into more diverse, redundant and benefit-shared which can help enhance the robustness of the economic system. Third, 2030 Seoul Plan stresses the urban environment as ecological context. With efficient seeking style of former urban development culture of Seoul, there is a lack of open green spaces except hills, lack of open public spaces. Also, the high energy dependency to the outer region is another critical vulnerability of Seoul. The last two key issues stress the building of the eco-friendly urban area, housing, and transportation system.

**Table 1.** Goals and Strategy of each Key Issues.

<b>Goals</b>	<b>Strategies</b>
Together Without Discrimination People-centered City (Welfare/Education/Women)	Welfare System in Response to an Aging Society
	Healthy City
	Well-Integrated Social System without Discrimination
	Opportunities for Education Available to Everyone
Dynamic Global City with a Strong Job Market	Gender Equality and Social Care
	Global Economic City Based on Creativity and Innovation
	Synergetic Growth among Economic Units Co-Development among Regions
Vibrant Cultural and Historic City	People and Job-Centered Vital Economy
	Historic City where Culture and Life are Integrated
	City Landscape that moves the Minds of Citizens
Lively and Safe City	Diverse City Cultures for Everyone to Enjoy
	Park-oriented Ecological City
	Energy-Efficient Resource Recycling City
Stable Housing and Easy Transportation, Community-Oriented City	Creating a Safe City for Everyone
	Urban Regeneration for Harmony between Life and Work Spaces
	Green Transportation Environment for a Convenient Life without Cars
	Provide Various Choices for Stable Housing

(Source:SMG [11])

## 5. Conclusions

The significant implication of 2030 Seoul Plan is that it is the first direct citizen participatory plan in Seoul. As discussed earlier, learning by doing makes a small but meaningful impact to SMG, citizens and experts. It also made the frame that the continuous long-term plan can be consistently sustained. That changes the macro trends of the Basic urban plan in South Korea, as it can be also replicated to other cities when considering the meaning of Seoul in South Korea. However, it explicitly shows some shortages that can be improved to cope with the contemporary urban characteristics of complexities and uncertainties.

Most of the adaptive foresight components were not reflected in 2030 Seoul Plan. The alternative approach, reflecting adaptive foresight and systemic perspectives, is beneficial because it addresses socio-technical system perspective. Therefore radical and fundamental change including technology and other system elements can be addressed. It can also open the futures and better reflect and respond to uncertainties and complexities e.g. different options of policy, wildcards, alternative future and so on. Another possible improvement is the selection of stakeholders. The selection of citizens were fine, but the expert and system stakeholders should have been strategically selected. Lastly, the citizen

participatory procedure could have utilized more creative tools that can empower citizens. That would have fostered and opened the creativeness of citizens so that the ultimate goal of citizen participation could have been achieved.

With analyzing 2030 Seoul Plan, we found that Seoul has well adopted reflexive governance as a tool for urban foresight. Although most conditions of reflexive governance were met with 2030 Seoul Plan, 2030 Seoul Plan lacks the consideration of long-term system effects and its implementation. Also, the proper monitoring system is still under construction. The most significant achievement is that the participants understood and acknowledged the role and strength of participatory planning process. With experiencing successful participatory planning process, officials can believe that the plan is not easily modified or collapsed without proper participation. Of course, citizens also learn how to contribute Urban Basic Plan. Diffusion of the participatory way in policy and increase of inter-departmental activities were also the fruition of 2030 Seoul Plan planning process.

Along adaptive foresight and reflexive governance, we found the aspects of urban resilience seeking in 2030 Seoul Plan in terms of tackling economic, social and ecological vulnerabilities.

In the aspect of urban foresight, 2030 Seoul Plan does not include policy implementation (yet), we could not see the whole process of foresight. But we expect that with this case study, readers can find the urban foresight framework in theoretical and inclusive manner and its adoption in practical case of one of the global mega-cities. We expect further research can cover the further process of 2030 Seoul Plan including long-term adaptivity and proper monitoring scheme.

### **Conflict of Interest**

The authors declare no conflict of interest with respect to the authorship and publication of this article.

### **References and Notes**

1. Cuhls, K., From forecasting to foresight processes—new participative foresight activities in Germany. *Journal of Forecasting* 2003, 22, (2-3), 93-111.
2. Weber, M. K., Foresight and adaptive planning as complementary elements in anticipatory policy-making: a conceptual and methodological approach. In *Reflexive Governance for Sustainable Development*, Voß, J.-P.; Bauknecht, D.; Kemp, R., Eds. Edward Elgar: Cheltenham, 2006.
3. Eriksson, E. A.; Weber, K. M., Adaptive foresight: navigating the complex landscape of policy strategies. *Technological Forecasting and Social Change* 2008, 75, (4), 462-482.
4. Voß, J.-P.; Truffer, B.; Konrad, K., Sustainability Foresight: reflexive governance in the transformation of utility systems. In *Reflexive Governance for Sustainable Development*, Voß, J.-P.; Bauknecht, D.; Kemp, R., Eds. Edward Elgar: Cheltenham, 2006.
5. Voss, J.-P.; Bauknecht, D.; Kemp, R., *Reflexive Governance for Sustainable Development*. Edward Elgar Publishing: 2006; p 478.
6. Davoudi, S.; Brooks, E.; Mehmood, A., Evolutionary Resilience and Strategies for Climate Adaptation. *Planning Practice and Research* 2013, 28, 307-322.
7. Arctic Council, *Arctic Resilience: Interim Report* 2013. Arctic Council: 2013.

8. Holling, C. S., Resilience and Stability of Ecological Systems. *Annual Review of Ecology and Systematics* 1973, 4.
9. Jeon, D.; Choi, I.; A Study on development of resilient local community and safety governance. *Korean Governance Review* 2013, 20, (2), 49-71.
10. Moench, M.; Tyler, S.; Lage, J., Catalyzing Urban Climate Resilience. *Applying Resilience Concept to Planning Practice in the ACCCRN Program* 2009, 2011.
11. SMG, 2030 Seoul Basic Urban Plan (2030 Seoul Plan). In *Seoul Metropolitan Government: Seoul*, 2014.
12. MOLIT, National Land Planning and Utilization Act. In *MOLIT, Ed. The Republic of Korea*, 2012.
13. Kang, S., Interview on 2030 Seoul Plan. In 2014.
14. The terms resilience and sustainability are intertwined with each other. Some papers argue that sustainability is paradoxical, and resilience can replace it, some are saying that resilience and sustainability are complementary, and some others are saying resilience towards sustainability.
15. Seoul Urban Planning Charter is also initiated by Urban Planning Department of SMG to spread and diffuse of successful 2030 Seoul Plan and its planning.

© 2015 by the authors; licensee MDPI and IFoU, This article is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license.