



# Post COVID-19 Visioning of Urban Comprehensive Plan through Citizen Participation\*

: Focusing on the Citizen Participation of Busan Metropolitan City

Yeom, Jae-Weon\*\* · Jang, Sae-Woom\*\*\* · Ha, Dong-Oh\*\*\*\* · Kang, Seung-Won\*\*\*\*\* · Jung, Ju-Chul\*\*\*\*\*

## Abstract

After the World Health Organization (WHO) declared COVID-19 as a pandemic on the 11th of March, the world is facing a change. The emphasis on social distancing caused by the COVID-19 pandemic has accelerated the transition to non-contact. The biggest change of being non-contact in everyday life was a decrease in interaction. Most of the exchanges occurring in urban spaces, from everyday meetings to movements between cities, are now transpiring in a new "space" provided by smart technologies. Meanwhile, the importance of citizen participation is being emphasized in the process of establishing a vision for urban planning. The urban planning paradigm has also shifted from the rational planning model of the past, which relied only on the expert rationality of the planner, to emphasizing the interaction between citizens through citizen participation. In fact, citizen participation in the process of visioning is expanding, centering on metropolitan governments such as Seoul, Busan, and Daegu, and in the process of establishing the 2040 urban comprehensive plan, local governments are visioning with citizen participation. Unlike the previous plan to conduct the first meeting as non-contact and the second–fourth meetings as face-to-face, Busan metropolitan city changed the second-fourth meetings to non-contact meetings as the spread of COVID-19 intensified after August 15th. A survey and an interview of citizens who participated in the visioning process revealed that a relatively high satisfaction was achieved with the citizen participation method in the new "space".

**Keywords** COVID-19, Citizen Participation, Urban Planning, Citizen Planning Group, Non-contact  
**주제어** COVID-19, 시민참여, 도시계획, 시민계획단, 비대면

## I . Introduction

### 1. Background and Purpose of Research

Since the World Health Organization (WHO) declared the

COVID-19 pandemic on March 11, 2020, the entire world has faced changes in various areas. The emphasis on social distance due to the COVID-19 pandemic accelerated the conversion to a non-contact society characterized by telecommuting, online schooling and remote medical examination. The

\* The present study was supported by the Innovative Human Resources Development Program for Smart City of the Ministry of the Ministry of Land, Infrastructure, and Transport.

\*\* Ph.D. Student, Department of Urban Planning and Engineering, Pusan National University (First Author: jaywo7@naver.com)

\*\*\* Ph.D. Student, Department of Urban Planning and Engineering, Pusan National University (bb1211@pusan.ac.kr)

\*\*\*\* Ph.D. Student, Department of Urban Planning and Engineering, Pusan National University (gkehddh@naver.com)

\*\*\*\*\* Ph.D. Student, Department of Urban Planning and Engineering, Pusan National University (allan92@naver.com)

\*\*\*\*\* Professor, Department of Urban Planning and Engineering, Pusan National University (Corresponding Author: jcjung@pusan.ac.kr)

biggest change caused by the routinization of non-contact living was the decrease of face-to-face exchange. From casual meetings to transportation between cities, most of the face-to-face exchange and communication that used to be performed in the urban 'space' are now carried out in a new 'space' based on the information technology. The spread of COVID-19 accelerated the hyperconnectivity and superintelligence of the Fourth Industrial Revolution, which had been slowly applied to daily living due to the lack of the motivation to promote (Bae & Shin, 2020).

In the field of urban planning, smart cities started to draw attention as a new paradigm in the era of the Fourth Industrial Revolution. The smart city concepts puts emphasis on the utilization of cutting-edge information and communication technologies to address the many problems in urban areas. Accordingly, Korea has promoted the National Pilot Project for Smart City and the Smart City Program, highlighting the importance of information and communication technologies such as IoT. However, the approach to solve urban problems by using information and communication technologies is not different from that of the ubiquitous city, which has been formed since the early 2000s. The core of a smart city is to identify the current issues and propose solutions to the problems by focusing on the various urban service consumers, including the citizens, companies and government (Baek, 2017). The importance of citizen participation through living labs in smart cities also demonstrates that problem-solving centered on the consumers is the essence of smart cities.

The hyperconnectivity and superintelligence, the application of which to daily living has been accelerated by COVID-19, have also affected the citizen participation-type visioning of urban plans. In particular, as the period for establishing the participation-type 2040 Urban Comprehensive Plan overlapped with the spread of COVID-19, a change was needed in the process and method of the participation-type visioning of urban plans. Busan Metropolitan City conducted the process of participation-type visioning of urban plans in a new 'space' for the first time among the mutual local governments in Korea. The offline round-table conference for the participation-type preparation of urban plans was replaced by a new method.

After the first non-contact citizen participation conference held on August 8, Busan Metropolitan City had plans to

establish the 2040 Urban Comprehensive Plan through three face-to-face citizen participation conferences from August 22. However, as the spread of COVID-19 became severe, especially in the Seoul Metropolitan Area, and Level 2 social distancing was implemented from August 15, 2020, Busan Metropolitan City decided to conduct the entire process of the citizen planning group in a non-contact manner. We conducted the present study to investigate the degree of satisfaction with the non-contact citizen participation method of the citizens and experts who participated in the non-contact citizen participation-type visioning of urban plans for Busan from August 8 to September 19, 2020. We used the results from the investigation to analyze the extendability and applicability of the non-contact method of citizen participation in the smart city era.

## II. Theory and Literature Review

### 1. Importance of Citizen Participation in Urban Planning

The paradigm of urban planning is gradually shifting from the rationality of experts to the consideration of various stakeholders in cities. The validity of citizen participation is increasing, because it can clarify the social critical mind and enhance the understanding of various public policies by the residents (Jang, 1992; Seok, 2008). Based on this validity, the participation in the urban planning process by the citizens, the largest stakeholders, has become highly important (Burby, 2003).

The citizen participation, now considered a necessary factor to an urban planning process, is defined at various layers. Arnstein (1969) proposed in her book an 8-rung ladder model of citizen participation. She stated that the layer of citizen participation is elevated as the competence of the civil society is increased. In other words, there are layers of citizen participation, and accomplishing a higher level of citizen participation requires continuous strengthening of the citizens' competence. This means that in the process of citizen participation, the citizens should be satisfied and their participation should be encouraged to reach a higher level of citizen participation. A more developed type of citizen participation can overcome the harmful effects of most top-down, centralized urban planning of the past and make improve-

ments (Peltonen & Sairinen, 2010). This is because rationality and fairness may be secured as numerous stakeholders are involved in the process of establishing the plans. In other words, securing the rationality and fairness in urban planning requires extension of citizen participation, which requires an increase of the satisfaction by the citizens who participate in the urban planning process. An active and smooth citizen participation process can increase the understanding of the citizens about the plans and enhance their interest in social sustainability (Sairinen, 2004). This suggests that continuous implementation of citizen participation itself can lead to strengthening of citizens' competence.

However, even a decade ago, citizen participation in Korea was not conducted positively due to the limitations of the systems and the low social awareness regarding citizen participation (Lee et al., 2009). However, as the systems and social awareness about citizen participation are improved gradually through continued interest in citizen participation, the process of urban planning has been conducted with citizen participation. Seoul Metropolitan City has operated a citizen planning group in the process of establish living zones, and Busan Metropolitan City has operated the Busan Citizens' Academy and the Busan Citizen Planning Group. Citizen participation usually takes place particularly in the procedures of visioning urban plans. Citizen participation is extending in the procedures of visioning urban plans especially in metropolitan municipal governments including Seoul, Busan, and Daegu. In the recent process of establishing the 2040 Urban Comprehensive Plan, citizen participation-type visioning of urban plans is carried out in various municipal governments including Seoul, Busan, Changwon, and Yangsan (Lee et al., 2009; 2015).

However, there has been criticism that the citizen participation in the urban planning in Korea is just a formality and the process of citizen participation is immature compared with advanced countries (Park et al., 2015; Jeon and Lee, 2016). It is true that the citizen participation remains passive in the forms of surveys, public hearings, notifications, and public exhibits for fear of side effects, such as speculative investment in real estate by the leakage of planning information and civil complaints due to the change of the land use (Lee et al., 2015). In addition, despite efforts to increase citizen participation, the citizens may not recognize the effects of participation or may not be provided with information to

the degree they desire (Park et al., 2015; Jeon & Lee, 2016). The citizen participation process has steadily been criticized in that the process based on communication consumes more time and cost than the conventional top-down plans (Wates, 2000). Nevertheless, citizen participation should be continuously implemented in order to prepare sustainable urban plans by securing the rationality and fairness of urban planning.

Efforts have been taken continuously to advance the methods of citizen participation to maximize the advantages of citizen participation and secure the sustainability of urban planning. Studies have been conducted to strengthen citizens' competence by combining education and to improve the citizen participation procedures in urban planning for smooth operation (Lee et al., 2009; Ha et al., 2017; Jeon et al., 2017). As the interest in smart cities has increased recently, studies have been conducted to facilitate citizen participation by employing various technologies. Examples include citizen participation methods based on the utilization of social network services (SNS), the connection with living labs, and the application of Civic Tech (Hyeon & Yoon, 2018; Park et al., 2019). These efforts help to minimize the side effects generated from citizen participation, enhance the participation rate, and increase the satisfaction of the participants, strengthening the competence of the civil society and elevating the level of citizen participation. Studies need to be conducted on citizen participation in the process of urban planning in accordance with the ever-changing paradigm of urban planning in order to increase the satisfaction of citizen participation and contribute to the establishment of sustainable urban plans.

## 2. Non-Contact Society in Post-COVID-19 Era

The COVID-19 pandemic has caused many changes in our society, including all aspects of cities. In this regard, a report on the UN framework for the immediate socio-economic response to COVID-19 argued that the social and environmental effects of the COVID-19 pandemic are more severe than the health effects, and they are impeding the sustainable development goals (SDGs)(United Nations, 2020). On the contrary, McKinsey, a global consulting company, argued that COVID-19 accelerated the adaptation to the Fourth Industrial Revolution (Agrawal et al., 2020). The



technological changes by the Fourth Industrial Revolution have already been applied to our society, but the COVID-19 pandemic routinized the Fourth Industrial Revolution deep in our lives, which accomplished the conversion to a non-contact society (Jin, 2020). A survey about the use of non-contact services after the COVID-19 pandemic, conducted by Hankook Research, showed that the non-contact service experienced by the highest ratio of respondents after the COVID-19 pandemic was real-time remote video watching (63%), followed by food ordering through delivery apps (58%) and online shopping (51%). The non-contact services that the respondents wanted to use continuously in the future included online insurance claims (82%), drive-through shopping (74%), and online remote classes (72%). The results of the survey conducted by Hankook Research indicate that the online remote technologies have been rapidly routinized in the non-contact society caused by COVID-19 among many non-contact technologies (Song, 2020). In particular, the World Bank puts an emphasis on digital technologies, including online platforms, as the technologies to counteract the COVID-19 and prevent the spread of the disease (Jiang and Ryan, 2020). Therefore, in the post COVID-19 era, daily living in the online 'space,' including online classes and conferences, will be a new standard.

Hence, in the non-contact era, the technologies based on the online space are critical and necessary in both education and industry. However, in the early stage of the non-contact society, problems inevitably occur, as the conventional offline lectures or conferences are conducted in the online 'space.' Park (2020) stated that the biggest problem of online lectures or conferences is 'communication.' The conventional offline system allowed for face-to-face communication, while the online system extremely reduces communication, lowering the satisfaction with online conferences. The issues related to 'security' also cause concerns that when meetings involving essential business plans are conducted online in a company, there is a higher risk of external leakage of meeting materials or contents compared to offline meetings. Furthermore, issues of 'technical accessibility' are also raised with respect to the group of people who are unfamiliar with online platforms and thus alienated from the digital services (Baek, 2020). Although the lectures and conferences based on the online remote technologies are necessary in response to COVID-19, the problems and vulnerabili-

ties involved in the utilization of the technologies should be addressed to increase the degree of satisfaction with the daily life in the online 'space.' The technological changes that have been brought about by COVID-19 are expected to make changes in the methods of citizen participation in the process of urban planning. In particular, to conduct the process of citizen participation-type visioning of urban plans in the post COVID-19 period and the era of the Fourth Industrial Revolution smoothly in the online 'space,' it is necessary to theoretically identify the factors to the satisfaction with the citizen participation.

### 3. Factors related to Satisfaction with Citizen Participation

Although citizen participation is partially implemented in the field of urban planning, few studies have been conducted on how to increase the satisfaction with citizen participation. It is necessary to increase the satisfaction with the citizen participation to establish sustainable urban plans by not only increasing citizen participation but also improving the quality of citizen participation and strengthening the citizens' competence. In citizen participation, a high degree of satisfaction with citizen participation is a prerequisite to the authorization of planning (Aladalah et al., 2015). The satisfaction is a powerful driving force of using the information-related system continuously (Bhattacharjee, 2001) and a factor that increases the trust of the government (Li & Gregor, 2011). Therefore, increasing the satisfaction with citizen participation is a crucial factor for the induction of continuous citizen participation. In the present study, previous studies were reviewed with respect to the factors related to the satisfaction with citizen participation.

The scholars who advocate citizen participation argue that citizen participation improves the impression of the government and reduces the probability of a government selecting violent and destructive political tactics. The exchange between a government and citizens decreases the alienation of citizens from policies and forms trust (Cole, 1975). In addition, people who voluntarily join citizen participation develop efficacy in social, political, and environmental contexts. This suggests that individual's psychological power may be increased through the involvement in others, increase of responsibilities, and organized problem-solving

(Zimmerman and Rappaport, 1988). Increasing the citizens' satisfaction through citizen participation can increase their interest in their neighbors and satisfaction, and it is necessary to develop methods of citizen participation that provide a high degree of satisfaction.

Based on a previous study that distrust on the government's accomplishments lead to citizen participation, Cole (1975) investigated the satisfaction with citizen participation by measuring the degree of satisfaction with project accomplishments. Citizen participation programs were evaluated by classifying them into three categories according to the influence of the citizens and the scope of relevant problems. The results showed that the satisfaction was low when the citizens had a too high or a too low influence. The interviews showed that the cause of the results was the internal conflicts generated by the control of their opinions by a specific power. The process of citizen participation is a process for producing social capital where new skills are learned, information is exchanged, and mutual trust is developed. When the knowledge of public systems is developed by delivering the behavior, functions and significance of the administrative activities in the process of conducting programs, better results may be produced. Individuals may personally feel that they have acquired knowledge and understanding about social and policy issues in the citizen participation process (Florina-Maria, 2010). Many previous reports on the satisfaction with citizen participation showed that the participants often feel satisfaction during citizen participation (Kim et al., 2012). Specifically, the satisfaction with the output, the connectedness between the participants, the equability of speech, and the acquisition of knowledge contributed to the positive feeling. Accordingly, efforts were made in the process of designing the method of citizen participation in the present study to increase the satisfaction with the output by setting the online 'space' and configuring the conference programs in a manner that secures the equability of speech, the connectedness between the participants, and the acquisition of knowledge.

With the increase of citizen participation in the online space, studies have been conducted on the satisfaction with the e-Government. Among various online methods of citizen participation, Roh & Kim (2007) investigated the satisfaction with the bulletin board where citizens can post their opinions online. In their study, the relevant variables were

decided by assuming that the satisfaction with the service and the quality of service determine the overall degree of satisfaction. The analytical results showed that the overall degree of satisfaction was affected by the frequency of using the website, the convenience of use, the accuracy of communication, and the satisfaction with the civil complaint settlement. The use frequency means that the expectation is satisfied. The convenience and the accuracy of communication are factors related to the convenient and easy use of the online system. Finally, the satisfaction with the civil complaint settlement means responsiveness. In the present study, to increase the convenience of the online platform, information was continuously provided about how to use the platform, thereby enhancing the convenient and easy use of the online 'space.' Jeong et al. (2005) argued that since the e-Government provides the same contents as the existing service, the same factors that used to be considered important in the offline service should be considered equally important. In their study, the satisfaction was investigated by adding the characteristic variables related to the media of information and communication. The added variables were accessibility, usability, trustworthiness, and responsiveness, among which usability and accessibility were found to be highly related to the satisfaction with the service. In consideration of online citizen participation, the characteristics of the media are key factors to the satisfaction. Therefore, the information gap between participants, the satisfaction with the communication, and the easiness of interface must be considered when employing a non-contact method of citizen participation. In the present study, efforts were made to reduce the information gap between the participants, increase the satisfaction with communication, and secure easiness of the interface. In addition, studies on citizen participation based on online conferences highlight the importance of motivating the citizens to participate and adopt the online method and suggest that research should be conducted about the satisfaction with the online citizen participation (Schmidhuber et al., 2017; Naranjo Zolotov, 2018).

### III. Case Region and Study Design

#### 1. Case Region and Visioning Process

The present study was conducted by selecting Busan as the



case region where a non-contact method of citizen participation was employed in the visioning process of the 2040 Urban Comprehensive Plan. The Busan Metropolitan City publicly gathered a citizen planning group consisting of 100 citizens from June 24 to July 14, 2020, and 238 applicants filed their applications to the citizen planning group through the official website of the Busan Metropolitan City, and by email, fax, mail, and visiting. In addition to the applicants, representatives of non-governmental organizations, the disabled, small business operators, multicultural families, foreign residents, young start-up operators, and resident autonomy committee members were involved. As a result, the citizen planning group was composed of 148 citizens according to the standards of gender, age, and subcommittee priorities. Subsequently, the 148 citizens were allocated to five subcommittees of Energetic City (job and industry), Convenient City (transportation and infrastructure), Attractive City (landscape and tourism), Healthy City (environment, disaster prevention and healthcare), and Fair City (citizen participation and balance) according to their fields of interest. The 148 members of the citizen planning group included 26 citizens in their 20s, 30 in their 30s, 25 in their 40s, 32 in their 50s, and 35 in their 60s. With reference to gender, the group consisted of 82 men and 66 women. One subcommittee chair and four facilitators to conduct the conferences of the citizen planning group were added to each of the five subcommittees. The citizen planning group of Busan Metropolitan City, organized into the subcommittees, held four non-contact conferences between August 8 and September 19, 2020.

In the preliminary face-to-face gathering held on July 25 before the first conference, a special lecture was given to the citizen planning group about urban planning, and another lecture on how to use Zoom, an online conferencing platform, was provided to help the citizens to enhance the convenience and understand the characteristics of the media better. The education was repeatedly provided to the citizens who were not familiar with the online media until they became accustomed to the use of Zoom. In addition, before conducting each conference, the agendas and examples were posted on the bulletin board of the citizen group to increase the satisfaction with the non-contact citizen participation. In addition, before each conference, a preliminary gathering to check the online conference environment of all the citizens was held so that the citizens of all the age groups could par-

ticipate in the conferences.

In the first online conference, a debate was conducted in each age group with the theme “Let’s Talk About Current Busan” to discuss the things that must be kept in Busan. Before conducting the age group debate in the first conference, an icebreaking time was provided to increase the connectedness among the participants. The online conference was set up to give speaking opportunities of a predetermined duration in order to increase the equability of speaking. Moreover, to reduce the information gap about the Urban Comprehensive Plan, lecture videos about the issues of the individual subcommittees were uploaded to the urban planning agora site of Busan Metropolitan City (<http://www.busan.go.kr/build/agora0502>), which must have been familiar to the citizens as they used it to apply for the citizen planning group.

The second to fourth online conferences were conducted as subcommittee debates. With the theme “Let’s Discuss the Issues and Future of Busan” the second online conference discussed the key words about the past, present, and future weaknesses and strengths of Busan. As in the first conference, an icebreaking time was provided to increase the connectedness among the participants. In addition, voting was implemented about the key words derived from the second conference by using the urban planning agora site of Busan Metropolitan City.

The third and fourth conferences were conducted with the theme “Let’s Determine Busan’s Visions” to discuss the visions of the individual subcommittees, the plans to accomplish the visions, and the comprehensive visions of Busan Metropolitan City. In the process of the third and fourth conferences, the facilitators of the individual subcommittees continuously contacted the citizen planning group to maintain connectedness.

## 2. Research Questions

An analysis of the satisfaction of the participants is necessary to extend and activate the application of the non-contact methods of citizen participation in the post-COVID-19 period. In the present study, a survey and interviews were implemented about the satisfaction with the non-contact conferences with the citizens and experts who participated in the citizen planning group. The Busan Metropolitan City,

which employed the non-contact method of citizen participation firstly among the municipal governments in Korea, took efforts to resolve the information gap between the experts and the citizen planning group by having preliminary gatherings and lectures, secure equability in speaking, improve connectedness among the participants, secure user convenience by using the media familiar to the participants, and improve the understanding about the characteristics of the online media. The research questions derived in the present study based on the review of the theories and previous studies are presented below.

**Research Question 1:** Is the satisfaction of the citizen planning group high with the non-contact, citizen participation-type process of visioning of the urban plans?

**Research Question 2:** Do the participants in the citizen planning group who have experienced the non-contact method of citizen participation want the non-contact citizen participation to continue even in the post-COVID-19 period?

### 3. Survey Design

In the present study, a survey was conducted with the O2O(Offline To Online) citizen planning group of the 2040 Busan Urban Comprehensive Plan to find the answers to the research questions established on the basis of the review of the theories and literature. The survey was conducted with 148 citizens, and 41 effective samples were obtained. The survey was also conducted with the 20 facilitators who participated in the citizen planning group to conduct the conferences and mediated the opinions among the citizens.

The questionnaire consisted of questions about the satisfaction with the conferences conducted by the non-contact method of citizen participation, the convenience of the online conferencing program, the connectedness among the participants, the educational effects such as knowledge acquisition, and the substantiality of online conferencing as a method of citizen participation in the post-COVID-19 period. The questionnaire used in the present study included a 4-point scale without a response corresponding to 'undecided.' In addition, additional questions regarding the drawback of online meetings were given to the citizens who had a

low degree of satisfaction with the non-contact conferences for citizen participation in order to identify the areas requiring improvements to continuously implement the non-contact method of citizen participation.

## IV. Analytical Results

### 1. Results of Survey Analysis

The survey conducted with the citizens and experts who participated in the citizen planning group of the 2040 Busan Urban Comprehensive Plan showed that the overall satisfaction was high with the conferences that were held online due to COVID-19. The average satisfaction score of the citizens was 2.88 points and that of the experts was 2.79 points, indicating that the satisfaction of the citizens was relatively high. However, the t-test that compared the average between the groups showed that the difference was not significant. Although the conferences were held online, the overall satisfaction with the conferences for the citizen planning group was high.

With regard to the convenience of Zoom, the online media used for the conferences for the citizen planning group, both the citizens and the experts showed a relatively high degree of satisfaction. The average convenience score was 2.98 points for the citizens and 2.79 points for the experts (Figure 1). The satisfaction with the user convenience may have affected the overall satisfaction with conferences, and that may be the reason the citizens showed a relatively high degree of satisfaction. The satisfaction was generally high with the educational effects of the citizen planning group activities including the acquisition of information or knowledge. The average score of satisfaction with the educational effects was 3.17 points in the citizens and 3.26 points in the

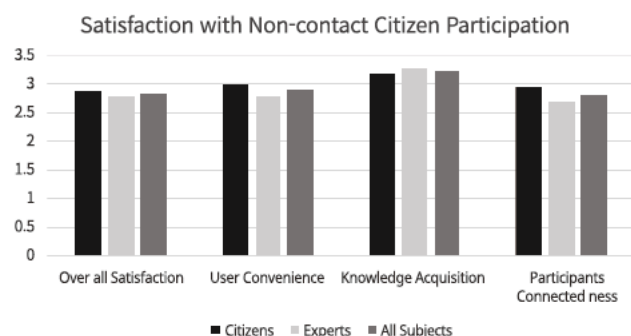


Figure 1. Satisfaction of non-contact participation



experts. The survey subjects also showed a high degree of satisfaction with the connectedness among the participants in the process of the online conferences. The average score was 2.95 points for the citizens and 2.68 points for the experts. However, as in the case of the overall satisfaction with the conferences, there was not a significant difference between the citizens and the experts in the scores of satisfaction with the Zoom user convenience, educational effects, and connectedness among the participants.

According to the analysis of the satisfaction based on the review of the theories and literature, the overall satisfaction with the conferences may have been affected by the participants' satisfaction with the connectedness among the participants, the educational effects including the acquisition of information or knowledge, and the convenience of the utilized system. Although the difference was not significant between the citizens and the experts, the satisfaction of the citizens with the factors to the overall satisfaction was higher than that of the experts, which might have resulted in a higher score of overall satisfaction with the conferences in the citizens. In particular, the average satisfaction score regarding a positive shift of perception was 3.12 points for the citizens, indicating that the high satisfaction with the non-contact method of citizen participation may have led to a positive shift of perception.

Seven out of the 41 respondents in the survey answered that they had participated in a face-to-face citizen participation group before, and 5 out of the 7 respondents responded that their satisfaction was higher in the non-contact conferences than in the face-to-face conferences. Although the results may not be generalized due to the small sample size, it was found that most of the survey respondents were more satisfied with the non-contact method of citizen participation than the face-to-face method.

In addition, the average satisfaction score of the citizens was 3.1 points with the sustainability of the non-contact method of citizen participation. As the citizens were highly satisfied with the non-contact method of citizen participation, they wanted the non-contact method of citizen participation to continue even in the post-COVID-19 period.

## 2. Interview Results

Additional interviews were conducted with five citizens

who showed a relatively low satisfaction with the online conferences in the survey results in order to identify the problems of the non-contact method of citizen participation. The following three problems were derived from the analysis of the interviews.

First, two of the citizens who showed a relatively low satisfaction pointed out the problem of communication among the participants as a disadvantage of the non-contact method of participation. The problem seems to be the lack of prompt communication in the online conferences where the opportunities for speaking are limited to prevent the overlapping of audio sound and secure equal opportunities for speaking in comparison with the offline conferences. Second, they pointed out the inconvenience of the Zoom conferences. They suggested having at least one offline meeting would be good and that it would have been better if subcommittee meetings had been held from the first conference. Third, they mentioned about a problem related to the benefits granted to the citizens participating in the citizen planning group. This problem seems to be related to the overall operation of the citizen planning group rather than the non-contact method of citizen participation. Nevertheless, it may be necessary to consider how to provide benefits to the participants in order to continuously implement and activate the non-contact method of citizen participation.

Moreover, additional interviews were conducted with the 43 members of the O2O citizen planning group of the 2040 Busan Urban Comprehensive Plan to hear their comments on the non-contact citizen participation. The interviews showed that most of them were satisfied with the citizen participation that was conducted in the non-contact manner due to COVID-19. On the other hand, the communication issues that were commonly pointed out by the participants may need to be improved in the future. Smooth operation of the non-contact citizen participation requires a conferencing method that can secure equal opportunities of speaking, while facilitating communication among the participants. Despite the communication troubles, the citizens expressed their satisfaction with the new information they acquired and the provision of information based on the familiar media. With the satisfaction, they hoped that the process of citizen participation and its non-contact method can be implemented continuously in the future.



## V. Conclusions

### 1. Key Findings

In the present study, in order to analyze the applicability of a non-contact method of citizen participation in the post-COVID-19 period, we analyzed the case of Busan Metropolitan City that operated a non-contact citizen planning group for the first time among the municipal local governments in Korea. A survey was conducted with the participants in the citizen planning group to investigate the satisfaction with the non-contact method of participation and examine if there is a difference between the citizen group and the expert group. In addition, in-depth interviews were conducted about the satisfaction with the non-contact method of citizen participation. The suggestions of the results, derived according to the research questions based on the review of the theories and literature, are described below.

**Research Question 1:** Is the satisfaction of the citizen planning group high with the non-contact, citizen participation-type process of visioning of the urban plans?

Various means were used to increase the connectedness among the participants of the citizen planning group, the education effects including the acquisition of knowledge, and the convenience of the system, and the participants of the citizen planning group expressed high satisfaction. In particular, the overall satisfaction with the conferences may have been affected by the participants' satisfaction with the user convenience of the online media, the acquisition of knowledge in the citizen participation process, and the connectedness among the participants. The satisfaction with the connectedness among the participants was relatively low in comparison with other factors, suggesting that the satisfaction with the citizen participation may be further increased by preparing methods for enhancing the connectedness and facilitating communication among the participants in the non-contact method of participation. In line with this, the problems identified by the interviews included the lack of communication, the need for offline meetings, and the benefits granted to the participations of the citizen planning group. Solutions to these identified problems may need to be found to continuously apply the non-contact method of

participation. In the online conferences, the citizens were asked to mute themselves in order to secure the equability of speaking and prevent the overlapping of audio sound. This may have caused the communication among the citizens to be less efficient in the online conferences than in the offline conferences. This problem may be solved by providing education about how to use earphones with a microphone during the online conferences, increasing the citizens' satisfaction in communication.

**Research Question 2:** Do the participants in the citizen planning group who have experienced the non-contact method of citizen participation want the non-contact citizen participation to continue even in the post-COVID-19 period?

As the citizens were highly satisfied with the non-contact method of citizen participation, they wanted the non-contact method of citizen participation to continue even in the post-COVID-19 period. The citizens had a positive view of the non-contact method of citizen participation that is realized in the new 'space' out of the physical urban 'space,' and wanted the non-contact method to be applied more extensively. In addition, although the citizens participated in the visioning of the Urban Comprehensive Plan in a non-contact manner, they were generally satisfied with their contributions to the establishment of the 2040 Busan Urban Comprehensive Plan, as in the case of offline citizen participation. Furthermore, they wanted the citizen participation to be extended to all procedures of urban planning through institutionalization of the citizen planning group so that citizens may participate in not only the visioning of the urban comprehensive plans but also urban management planning where the comprehensive plans are implemented through urban development projects.

### 2. Policy Implications

As the paradigm of urban planning is shifting from the rationality of experts to a bottom-up method based on the communication among citizens, the importance of citizen participation has increased in the field of urban planning. Moreover, as more emphasis is put on smart cities, there is an increasing need for addressing urban problems in consid-

eration of the citizens who are the consumers of the urban space. Therefore, in the field of urban planning, citizen participation should be developed to the eighth stage of citizen participation in Arnstein's ladder theory where the citizens have the control in planning, policy making, and policy implementation. Although the citizen participation in urban planning requires more time and cost than before, it is necessary to secure rationality through citizen participation in order to minimize the negative external effects on the local areas that may be caused by urban planning (Peltonen & Sairinen, 2010). Hence, citizen participation should be extended from the visioning of the urban comprehensive plans to urban management plan to implement and manage the comprehensive plans. Elevating the level of citizen participation suggested by Arnstein by extending the citizen participation in urban planning requires an increase of the satisfaction with citizen participation. The case of the present study well illustrates the application of smart technologies of the Fourth Industrial Revolution, which have been slowly applied to daily living, to the field of urban planning, especially the method of citizen participation, as the application was triggered by the effect of COVID-19. The spread and continuous application of the non-contact participation method will be well matched with the paradigm of smart cities where consumer-centered problem-solving is emphasized, and will further shift the paradigm of urban planning itself. Moreover, overcoming the perfunctory citizen participation in the visioning of urban comprehensive plans, the application of the non-contact participation method will contribute to the routinization of citizen participation by extending bottom-up decision-making procedures in all areas of urban planning, including urban management plan and managing the comprehensive plans.

The increase of the non-contact method of citizen participation is expected to resolve the spatial constraints of the past citizen participation in offline spaces, which requires the citizens to be in the same space at the same time. In addition, the spatial constraints of the citizen participation in offline 'space' limit the number of participants. The citizen participation in the online 'space' enables the citizens to participate in the conferences regardless of the 'spaces' where the citizens are physically present. Compared to the limited offline 'space' that limits the possible number of participants, the online 'space' is less limited with regard to the number of

participants. In the process of the visioning of the 2040 Urban Comprehensive Plan, the citizen planning group stated that the less spatial limitation is one of the advantages of the non-contact method of citizen participation in comparison with the offline meetings. The non-contact method of citizen participation is expected to resolve the spatial constraints so that more stakeholders may participate in the process of urban planning.

The increased application of the non-contact method of citizen participation will provide more opportunities for citizen participation and thereby increase the citizens' interests in urban planning. The increase of citizen participation actually allows for planning in consideration of sustainability and balance and strengthens the local planning competence (Bond et al., 2001). This is because the increased citizen participation in the urban planning process increases citizens' interest in their own spaces and urban issues, which naturally results in the routinization of discussion of urban problems. In other words, the increased application of the non-contact method of citizen participation will allow more stakeholders to participate in the process of urban planning, and the increased citizen participation will strengthen the planning competence of the local residents, enabling them to prepare sustainable and well-balanced plans. Expansion of the infrastructure is also required to obtain the most benefits from increased application of the non-contact method of citizen participation. Recently, as various efforts are made to form smart cities, new smart devices are being introduced and a variety of facilities are connected to the internet. The increase of the smart devices requires a wider bandwidth, which in turn requires more infrastructure related to the internet. In addition, the increased application of the non-contact citizen participation also requires more internet infrastructure, because the citizens need to use the internet to participate. Besides the physical infrastructure, social infrastructure should also be provided, such as education for the elderly citizens. Therefore, policies for increasing infrastructure are necessary to facilitate the participation by more citizens and support the elderly citizens and those who are vulnerable to access to the internet.

On the other hand, feedback to the accomplishments of projects is needed for non-contact citizen participation with high reliability and satisfaction. A previous report on the satisfaction of citizen participation showed that the satisfaction



with the project outcome is crucial (Cole, 1975). In the non-contact citizen participation process of the present study, the lack of feedback to the outcome from the previous citizen participation was pointed out as a problem. At the same time, the citizens commented that the citizen participation should not be a one-time event and they want their opinions to be substantially reflected. In the absence of information about how the outcomes of citizen participation are applied and accomplished, citizen participation may be regarded as a showy administrative event. If a system is prepared to communicate the information about the procedures and outcome, citizen participation may continue in a more reliable manner.

The activation of non-contact citizen participation requires efforts to induce the participation of people vulnerable to digital technologies, including those who are not familiar with the online environment or who have difficulties in using the data, in order to incorporate various stakeholders in the citizen participation process. Actually, some of the citizens who were not familiar with the online environment or who could not afford the expense for data communication were unable to participate in the citizen planning group even though they wanted to do so. In the present study, an attempt was made to provide the citizens with an offline space where data communication services may be used free of charge, but the severe COVID-19 situation prevented the arrangement and thus the participation by the digitally disadvantaged citizens could not be secured. The non-contact method of citizen participation may be further activated by preparing methods for including digitally disadvantaged citizens, such as providing offline spaces with free Wi-Fi and granting data service vouchers. In addition, to incorporate the citizens who are not familiar with the online conferencing environment, various methods may be applied such as the distribution of online conferencing software guidelines, preliminary education for non-contact citizen participation, and preliminary testing of the online conferencing system, as employed in the present study.

In summary, the scope of citizen participation in urban planning should be extended from the current visioning stage to incorporate more areas and more stakeholders. The non-contact method of citizen participation analyzed in the present study will resolve the spatial constraints of offline citizen participation, enabling various stakeholders to partic-

ipate. The participation of various stakeholders in the urban planning process will increase the citizens' interest in urban issues, and thereby improve the capabilities to prepare local plans. Moreover, the participation by various stakeholders will encourage the citizens to participate in not only the visioning of the urban comprehensive plans but also urban management plan to implement and manage the comprehensive plans, allowing for the establishment of sustainable and well-balanced urban plans. The increased application of the non-contact method of citizen participation, analyzed in the present study, will contribute to the rationality of urban planning in the upcoming new period by shifting the paradigm of urban planning in the direction of urban planning with high communication reasonableness, smart cities with consumer-centered problem-solving, and non-contact society emphasized by COVID-19.

## References

- Aladalah, M., Cheung, Y., and Lee, V. 2015. "Enabling Citizen Participation in Gov 2.0: An Empowerment Perspective", *Electronic Journal of e-Government*, 13(2): 77-93.
- Arnstein, S.R., 1969. "A Ladder of Citizen Participation", *Journal of the American Institute of Planners*, 35(4): 216-224.
- Bae, Y.I. and Shin, H.L., 2020. "COVID-19, Accelerates Untact Society", *Issue & Analysis*, (416): 1-26.  
배영임·신혜리, 2020. "코로나 19, 언택트 사회를 가속화하다", 「이슈 & 진단」, (416): 1-26.
- Baek, I.S., 2020. "Korea's Great Digital Transformation and Industry Fostering Direction", *Monthly Public Policy*, 176: 16-18.  
백인수, 2020. "팬데믹 이후 대한민국의 디지털 대전환과 산업 육성 방향", 「월간 공공정책」, 176: 16-18.
- Baik, N.C., 2017. "Smart City Infrastructure Construction Strategy: Focusing on Performance Indicators for Investment Expansion", *Monthly KOTI Magazine on Transport*, (228): 13-20.  
백남철, 2017. "스마트시티 인프라 건설 전략: 투자 확대를 위한 성과지표를 중심으로", 「월간교통」, (228): 13-20.
- Bhattacharjee, A., 2001. "Understanding Information Systems Continuance: an Expectation-confirmation Model", *MIS Quarterly*, 25(3): 351-370.
- Bond, R., Curran, J., Kirkpatrick, C., Lee, N., and Francis, P. 2001. "Integrated Impact Assessment for Sustainable Development: A Case Study Approach", *World Development*, 29(6): 1011-1024.
- Burby, R.J., 2003. "Making Plans That Matter: Citizen Involvement and Government Action", *Journal of the American Planning Association*, 69(1): 33-49.

9. Chang, W., 1992. "Approach to Planning Theory (I): Dissolution of the Rational Planning Model", *Journal of Environmental Studies*, 30: 70-86.  
장욱, 1992. "계획이론에의 접근 (I): 합리적 계획모형의 해체", 「환경논총」, 30: 70-86.
10. Cole, R.L., 1975. "Citizen Participation in Municipal Politics", *American Journal of Political Science*, 19(4): 761-781
11. Florina-Maria, B., 2010. "Implications of Citizen Participation in Local Public Administration upon Citizens' Satisfaction", *Annals of Faculty of Economics*, 1(2): 1074-1080.
12. Ha, G.J., Lee, D.B., and Jung, J.C., 2017. "The Process and Result of the Citizen Participation in Community Visioning", *Journal of Korea Planning Association*, 52(1): 5-20.  
하경준·이달별·정주철, 2017. "도시계획 비전수립에 있어 시민 참여 과정 및 결과에 관한 시사점 고찰", 「국토계획」, 52(1): 5-20.
13. Hyun, J.W. and Yoon, S.O., 2018. "New Citizen Participation: Civic Tech Comparative Analysis from an Ecosystem Perspective", *Korean Public Management Review*, 32(3): 349-379.  
현지우·윤상오, 2018. "새로운 시민참여: 생태계 관점에서의 시빅테크 비교분석", 「한국공공관리학보」, 32(3): 349-379.
14. Jeon, C.M. and Lee, H.C., 2016. "The Trends and Characteristics of Engaged Urban Planning in Korea: Focused on 2030 Master Plans for Cheongju, Suwon, and Seoul", *Seoul Studies*, 17(4): 1-16.  
전철민·이희정, 2016. "우리나라 참여형 도시계획의 추세 및 특성에 대한 연구: 청주, 수원, 서울의 2030년 도시기본계획을 중심으로", 「서울도시연구」, 17(4): 1-16.
15. Jin, S.K., 2020. "The World Seen by Researchers: Social Changes and Challenges Created by COVID-19", *Local Information Magazine*, 122: 72-75.  
진상기, 2020. "연구원이 보는 세상: 코로나 19가 만들어낸 사회 변화와 도전", 「지역정보화」, 122: 72-75.
16. Jun, B.H., Song, H.S., and Lee, M.H., 2017. "A Study on the Improvement of Citizen Participatory Education Program for Effective Urban Regeneration", *Journal of the Korean Regional Development Association*, 29(4): 155-181.  
전병해·송혜승·이명훈, 2017. "도시재생을 위한 시민참여 교육 프로그램의 운영현황과 개선방안 연구", 「한국지역개발학회지」, 29(4): 155-181.
17. Jung, B.K., Kim, S.J., and Myeong, S.H., 2005. "Influencing Factors of Users' Satisfaction on E-government Services in Korea", *Korean Journal of Policy Analysis and Evaluation*, 15(3): 135-161.  
정병걸·김석주·명승환, 2005. "전자정부 서비스에 대한 이용자 만족도와 영향요인: 5개 전자정부 서비스를 중심으로", 「정책분석평가학회지」, 15(3): 135-161.
18. Kim, J.K., Kim, H., and Lee, J.J., 2012. "A Study Monitoring of Citizen's education Program in Community Building—Focused on Suwon-City Community Renaissance Academy Program in Korea—", *Journal of Korea Planning Association*, 47(2): 57-67.  
김진경·김현·이재준, 2012. "마을만들기 시민교육 프로그램의 모니터링 연구 - 수원시 마을르네상스 학교 프로그램을 대상으로", 「국토계획」, 47(2): 57-67.
19. Lee, J.J., An, S.U., Kim, D.Y., and Choi, S.H., 2009. "A Study on Developing Education Programs through Operating a Residents-Oriented Studio Type of an Academy of Urban Planning", *Journal of Korea Planning Association*, 44(3): 247-259.  
이재준·안상욱·김도영·최석환, 2009. "시민참여형 스튜디오형 도시대학 운영을 통한 교육프로그램 개발방안", 「국토계획」, 44(3): 247-259.
20. Lee, J.J., Kim, Y.S., Kim, H., and Kim, D.Y., 2015. "The Present Status and Government Officials Recognition of the Citizen Participation in Comprehensive Plan - Focused on Municipalities of Gyeonggi-do", *Journal of the Urban Design Institute of Korea Urban Design*, 16(4): 5-16.  
이재준·김예성·김현·김도영, 2015. "시민참여형 도시기본계획 수립 현황과 공무원 인식 - 경기도 31개 시군을 중심으로", 「한국도시설계학회지 도시설계」, 16(4): 5-16.
21. Li, M. and Gregor, S., 2011. "Outcomes of Effective Explanations: Empowering Citizens through Online Advice", *Decision Support Systems*, 52(1): 119-132.
22. Naranjo Zolotov, M.J., 2018. "Determinants of Information and Communication Technologies for the Online Citizen Participation Adoption in Urban Contexts", Ph.D. Dissertation, Universidade Nova de Lisboa.
23. Park, J.H., Park, J.W., and Nam, K.W., 2019. "A Study on the Activation of Citizen Participation through Living Lab", *Journal of the Korean Regional Science Association*, 35(3): 33-44.  
박준호·박정우·남광우, 2019. "시민참여형 스마트시티 리빙랩 활성화 방안 연구", 「지역연구」, 35(3): 33-44.
24. Park, J.J., Sung, H.J., and Park, C.H., 2015. "Development and Application of Collective Spatial Decision Support System for Participatory Urban Planning", *Seoul Studies*, 16(1): 1-16.  
박종준·성혜정·박종화, 2015. "참여형 도시계획을 위한 집합적 공간의사결정지원 시스템의 개발 및 적용", 「서울도시연구」, 16(1): 1-16.
25. Park, M.G., 2020. "New Normal Era after COVID-19", *Monthly Public Policy*, 177: 56-60.  
박민규, 2020. "[정책제안] 코로나-19 이후 시대의 뉴노멀", 「월간 공공정책」, 177: 56-60.
26. Peltonen, L. and Sairinen, R., 2010. "Integrating Impact Assessment and Conflict Management in Urban Planning: Experiences from Finland", *Environmental Impact Assessment Review*, 30(5): 328-337.
27. Rho, S.Y. and Kim, C.G., 2007. "User Satisfaction on Digital Citizen Participation and Its Effects on Trust in Government: With Special Reference to the "Contact the Mayor" in Guro District", *Korean Public Management Review*, 21(3): 25-57.  
노승용·김찬곤, 2007. "전자 시민참여 이용자 만족도와 정부신뢰: 구로구 "구청장에게 바란다" 를 중심으로", 「한국공공관리학보」, 21(3): 25-57.
28. Sairinen, R., 2004. "Assessing Social Impacts of Urban Land-use Plans: From Theory to Practice", *Boreal Environment Research*, 9(6): 509-517.
29. Schmidhuber, L., Hilgers, D., Gegenhuber, T., and Etselstorfer, S., 2017. "The Emergence of Local Open Government: Determinants of Citizen Participation in Online Service Reporting", *Government Information Quarterly*, 34(3): 457-469.
30. Seok, I.S., 2008. "Public Participation in the Environmental Impact Assessment Process: Focused on a Comparative Study of



- EIA between U.S. and Korea”, *Environmental Law Review*, 30(2): 437-472.
- 석인선, 2008. “환경영향평가절차상 주민참여: 미국과 우리나라의 경우에 관한 비교법적 고찰을 중심으로”, 『환경법연구』, 30(2): 437-472.
31. United Nations, 2020. “A UN Framework for the Immediate Socio-economic Response to COVID-19”.
32. Wates, N., 2000. *How People Can Shape Their Cities, Towns and Villages in Any Part of the World*, London: Earthscan Publications Ltd.
33. Zimmerman, M.A. and Rappaport, J., 1988. “Citizen Participation, Perceived Control, and Psychological Empowerment”, *American Journal of Community Psychology*, 16(5): 725-750.
34. Song, H.N., 2020, June 3. “Post COVID-19 – COVID-19 and Un-tact, Digital Society Transformation”, <https://hrcopinon.co.kr/archives/15674>
- 송한나, 2020.6.3. “포스트코로나-코로나19와 비대면, 디지털사회 전환”, <https://hrcopinon.co.kr/archives/15674>
35. Agrawal, M., Eloom, K., Mancini, M., and Patel, A., 2020. July 29. “Industry 4.0: Reimagining Manufacturing Operations after COVID-19”, <https://www.mckinsey.com/business-functions/operations/our-insights/industry-40-reimagining-manufacturing-operations-after-covid-19#>
36. Jiang, N. and Ryan, J., 2020. May 29. “How Does Digital Technology Help in the Fight against COVID-19?”, <https://blogs.worldbank.org/developmenttalk/how-does-digital-technology-help-fight-against-covid-19>

Date Received 2020-10-12  
 Reviewed(1<sup>st</sup>) 2020-12-01  
 Date Revised 2020-12-02  
 Reviewed(2<sup>nd</sup>) 2020-12-16  
 Date Accepted 2020-12-16  
 Final Received 2021-01-04