

Impact of Communication Quality in Facilitating Citizen Participation in Urban Planning

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Abstract – Urban planning procedures are difficult for individuals to understand due to their complexity, which stems from the large number of parties involved, the existence of legal and political processes, and the presence of bureaucracy. Despite towns' efforts to include more residents in shaping their communities, participation remains low, and citizens' involvement often occurs late in the design process, when changes are more difficult to implement. That is not because people are not interested; instead, it is because plans have not been conveyed well enough for people to understand the repercussions before it is too late to have an impact. Citizens' comprehension, involvement, and ownership of plan proposals may all benefit from more opportunities for public participation in the planning process. As an alternative to data based only on technical and statistical understanding, citizen engagement may augment analysis with useful information at a human level. In that regard, this study will investigate how towns might enhance communication quality by making information more readily available and presenting it in a style and tone that are more likely to encourage debate and collaboration among its constituents.

Keywords – City Planning, Urban Planning, Citizen Engagement, Communication Quality

I. INTRODUCTION

City planning, rural planning, regional planning, or town planning refer to the same political and technical process that focuses on improving the quality of life in metropolitan areas by enhancing the accessibility of infrastructure, telecommunications, and distribution channels, as well as the designing of the physical environment and land use. Historically, urban planners have used a top-down methodology to map out the general shape of cities and towns. Utilization, preservation, sanitation, and efficiency of the environment; as well as the master urban planning for economic and social activities, were all the principle concern for the public good. The environmental and social benchmarks have become more important in urban planning, which sees itself as a tool to boost human health and happiness without compromising environmental integrity. In the late 20th century, as the unintended consequences of conventional modeling approaches on the economy and environment became more apparent, sustainable development became an integral part of every planning endeavor. The work of Santander and Garai-Olaun [1] on the transition of the 21st century encouraged urban planners to prioritize the interests of citizens, businesses, and communities above purely legal and political considerations.

Planning for how people will move about and spend their time in a specific region, whether in the city, the suburbs, or the country, are an essential part of urban planning. While designing cities and neighborhoods is the primary responsibility of urban planners, they are also responsible for coordinating the efficient flow of goods, resources, individuals, and trash; distributing necessities like electricity and water; fostering a sense of inclusion and providing an opportunity for individuals from different backgrounds, cultures, and needs; fostering economic growth or company development; enhancing health; and preserving areas with a natural environmental footprint. Shahawy, Onwuzurike, Premkumar, Henricks, and Simon [2] have centered on the best ways to include more members of the community in urban planning, given that most urban planning organizations are made up of highly educated government employees.

Civil engineering, building design, human geography, and politics, sociology, and design science are just few of the many disciplines that contribute to urban planning. Researchers, analysts, engineers, architects, urban designers, citizens, policymakers, and managers are all part of the urban planner's daily routine. It is not unexpected that the two disciplines are closely related since some urban planners' design plans for roads, stadiums, structures, and other urban areas. Strategic, policy, and sustainability objectives can only be met via collaboration between urban planners and their counterparts in related professions including civil engineering, public administration, and architecture and landscape design. Although many of the first urban planners also worked in these related professions, urban planning has since evolved into its own distinct profession. Land-use planning, economic development, transportation planning, zoning, and environmental planning are all sub-fields under the larger subject of urban planning. The plans cannot be made without experts familiar with both criminal law and planning regulations for various zones. Urban planning includes a broad range of activities, from comprehensive master planning of new construction sites to small-scale interventions and repairs of existing

structures and public spaces. Robert Moses and Le Corbusier began from scratch, whereas Georges-Eugene Haussmann in Paris, Lucio Costa in Brasilia, Daniel Burnham in Chicago, and Pierre Charles L'Enfant in Washington in Paris all renovated and remade cities and villages to match their ideals of urban planning [3].

Cities and towns from the 3rd millennium BC were planned and built in Mesopotamia, the Indus Valley, Crete, and Egypt, and their remains may still be seen today. Archaeologists digging in these areas have unearthed the remnants of paved roadways laid out in a grid layout. A well-organized city center developed through time as the concept was accepted by many cultures. Beginning in the eighth century BCE, orthogonal (or grid-like) patterns became the norm for Greek city states. The "founder of European urban planning," known as Hippodamus of Miletus (498 to 408 BC) was a Greek urban planner and architect famous for developing the "Hippodamian plan" (grid plan) for city design.

In imitation of the Greeks, the ancient Romans adopted orthogonal city layouts. Ancient Roman city planning prioritized security and practicality. The Roman Empire's expansion facilitated the dissemination of new concepts in city design. These beliefs gradually faded away after the collapse of the Roman Empire. In spite of this, the Roman city center was often preserved in numerous European towns. Cities in Europe expanded spontaneously and sometimes chaotically between the ninth and fourteenth centuries. However, many new towns expanded with well-planned constructions in the years after the Renaissance. More information on urban planning and the individuals who made it happen is available beginning in the 15th century [4]. It is during this time that the first theoretical treatises on urban planning and architecture appear, detailing and illustrating the designs of towns and cities while addressing theoretical questions such as how to best plan the main lines, how to best ensure that plans meet the requirements of a particular population, and so on. Several European monarchs throughout the Enlightenment era made grandiose attempts to remodel their respective capitals. In order to make Paris more suitable as a contemporary capital, Baron Georges-Eugène Haussmann was tasked by Napoleon III to remodel the city during the Second French Empire, giving the city new long, straight, and broad boulevards.

A new paradigm emerged at the start of the twentieth century in the fields of planning and architecture. Rapid expansion was a hallmark of the 19th-century industrial metropolis. As time went on, people started paying more attention to the plight of the working poor in cities. The laissez-faire approach to government economic management that was popular for many of the Victorian period was paving way to a New Liberalism, which favored citizen engagement on behalf of the poor and oppressed [5]. Theorists started designing urban planning models about 1900 to help populations, particularly factory employees, cope with the negative effects of the industrial period. Therefore, a central planning approach to urban planning would dominate the next century over the world, but this wouldn't necessarily be an improvement.

According to Crăciun, Ion Mincu [6], planning cities and towns was not always seen as a distinct field, but that started to change around the turn of the twentieth century. In 1899, the Country and Town Planning Association were established, and in 1909, the University of Liverpool introduced the first urban planning course in British higher education. The modernist and uniformist ideals that emerged in urban planning in the 1920s persisted into the 1970s. The Radiant City, proposed by Le Corbusier in 1933, is a vertical metropolis meant to alleviate environmental hazards and population congestion by efficient use of space. However, a sizable number of urban planners began to suspect that crime and other social issues would increase if modernist principles were implemented. Planning for cities began to emphasize uniqueness and variety in the second half of the 20th century.

The planners of large cities face a unique set of challenges and opportunities due to the city's inherent variety of human communities. Cities have numerous benefits, but one of them is that the high concentration of people makes them a natural center for variety and a good location for cooperation. This lays the groundwork for public input into urban planning. The majority of modern urban planning bodies only include the public as much as is required by law. Some players see citizen engagement as a chore, something which must be accomplished in order to go forward, rather than a chance to provide insightful feedback. Developers, in particular, tend to have this view, according to the available evidence, whereas designers and politicians place a higher value on involvement in order to guarantee democratic procedures and the equal representation of all voices in society.

This article argues that public engagement at early stages may give useful input for planning processes, but that planning authorities must do a better job of enabling this participation than they now do. The article will clarify some of the key concepts of urban planning, explore the literature's perspectives on public engagement in planning processes, and examine works on improving the quality of communications so that its meaning may be grasped by those without specialized training. What urban architects can learn from the field of designing, where user input is valued and human-centered processes are standard, will also be explored. Based on this study, we discuss some of the current concerns to engagement and provide some ideas for overcoming them. The remaining part of the article has been organized as follows: Section II focuses on an introductory review of urban planning. Section III discusses the relevant urban planning stakeholders while Section IV focuses on the concept of urban planning and citizen participation. Challenges of participatory city planning are critically evaluated in Section V. Section VI focuses on the breadth and actualization of participation, which Section VII provides an insight on the human centered design. Section VIII presents an in-depth analysis of the development of urban planning, urban forms and participatory planning. Lastly, Section IX draws final remarks to the article.

II. URBAN PLANNING

With both the present and the future in mind, urban planners create blueprints for how cities will grow and change. Community development plans must account for land use, mobility, constructions, landscapes, open spaces, infrastructure, socioeconomic investments, employment, and enterprises. The following are the steps taken in Norway for regulating urban plans: (1) there is the initiation, and (2) then there is the first meeting. (3) Initiating a New Project Exposition to the General Public (4) Collection of Information (5) Outline of the Plan (6) The Political Handling of the Planning Committee (7) There must be open examination from the general public. (8) The Second Treatment: The Committee for Planning (9) ninth and last step is the close.

During the mandatory, behind-closed-doors kickoff meeting, stakeholders including politicians, planners, landowners, and developers review the project's technical specifications. The plan consultant is responsible for informing other stakeholders of their rights and providing ideas for ensuring their involvement in advance of the kickoff meeting. Public government stakeholders, such as infrastructure and government agencies, neighbors, and interest groups, are notified at the project's initiation. The public notice must be posted on a government-run website and republished in at least one regional newspaper. The reader needs to know what will happen if a certain plan is implemented, who is to blame, and where to go for further details. A further letter of notice, written in language that is understood to those without technical training, must be sent to landowners, neighbors, and government stakeholders.

Information such as geotechnical and chronological data is gathered in the fourth step before a design draft is created. The drafting process is handled in a democratic political planning committee. Individuals have at least 6 weeks of public review to publicly provide recommendations or criticisms of the proposal. The next step is a fresh hearing before the planning committee, when it will be determined whether or not to go through with the original design, and if so, what modifications will be necessary. Alterations made in steps 6–9 have the potential to restart the process from step 4. The costs and delays of making a course correction at this late stage of the project might be substantial. Without public buy-in, opposition to the proposal might grow, exacerbating the problem that prompted the need for revisions in the first place. Due to this, this study will concentrate on maximizing citizen involvement in steps 1-4, when the plan is most open to change and may be shaped more effectively by listening to the public's feedback.

III. URBAN PLANNING STAKEHOLDERS

According to Fageha and Aibinu [7], individuals or organizations with a direct interest in the project's outcome and the ability to influence it for better or worse are considered stakeholders. Citizens aren't the only ones that have a vested interest in urban planning, however; developers, planners, politicians, and community groups all have, too. When attempting to enhance the quality of interaction between stakeholders, it is important to take into account the nature of the existing relationships among them and the current flow of information and communication. IFC's "Stakeholders Interaction" guidebook outlines eight factors necessary for effective stakeholder engagement. These are: 1) Defining Stakeholders and Conducting Analysis 2) Dissemination of Knowledge 3) Involvement of relevant parties in decision making 4) Collaboration and Negotiation 5) Handling complaints 6) Involvement of project stakeholders in ongoing monitoring 7) Informing relevant parties 8) Administrative duties Stakeholder alignment, in which diverse actors collaborate toward a single purpose as opposed to their own interests, may be achieved by the administration of these components, which planners can become aware of.

IV. URBAN PLANNING AND CITIZEN PARTICIPATION

According to the Norwegian Plan and Building Act, (Section 5-1: Participation), anyone who supports a plan proposal shall be regarded for participation. It is the responsibility of the municipality to guarantee that these criteria are met in planning procedures carried out by other governmental bodies or commercial entities. It is the obligation of local governments to facilitate the full and equal involvement of all citizens, including those with special needs such as children and teenagers. The chances for those who cannot take part directly must be made available to them in other ways.

According to the Ministry of Local Government and Modernization [8], "participation" is the freedom of people and organizations to have a say in policymaking. The objective is to make sure that local communities have access to democratic forums where people's demands may be heard and where innovation and participation are encouraged. Citizens should become involved for two key reasons. The first is that participatory planning serves normative purposes, which is connected to direct democracy. The case is made that giving people a platform to have their opinions heard would increase faith in the legitimacy of government decision-making. This might give the people more say in government choices and help to balance the power dynamic.

To continue, one of the instrumental purposes of participatory planning is to improve the quality and efficiency of the planning process. When individuals have a voice in policymaking, they feel more invested in its outcome, and the resulting decisions are typically more well-grounded and transparent. Issues and difficulties should be made bare rather than concealed so that a wide range of interested parties may contribute to finding solutions. Possible result: less implementation issues and fewer pushbacks. And it could help make urban renewal more obvious, which might inspire people to become involved in city planning. The Ministry considers that when people take part in planning, it may improve the quality of the plans, foster a sense of shared ownership, and provide a learning opportunity for both residents and

planners. Citizens have the finest understanding of their communities, and when they share that understanding with planners, it fosters local democracy and creates the foundation for a vibrant, inclusive society.

V. CHALLENGES OF PARTICIPATORY CITY PLANNING

Including everyone in city planning is difficult for a variety of reasons. The complexity of urban planning, the difficulty of achieving the intended degree of engagement and the quality of communications will all be discussed in detail below.

Complexity

The complexities of urban planning present the greatest barrier to the success of participatory planning. A desire to enable for participatory procedures among planners, developers, and legislators is necessary to ensure that the requirements of many stakeholders are satisfied and that all people have the chance to participate and voice their view. It also necessitates resources, both monetary and human, which may be hard to defend given the unpredictability of its long-term impacts and the impact on short-term budgets. It is also challenging to maintain a healthy power and influence distribution among many interested parties. People will not have decision-making authority despite efforts to do so, and landowners, politicians, and planners will nearly always be in a better position to affect outcomes than citizens.

Citizens need to be informed of this, so they know what their rights are and how much sway they have over proposed changes. There has to be a level playing field for all citizens if they are to have their voices heard, yet in today's complicated world, many people give up or are too overwhelmed to become involved. Diverting tasks into specialized teams led by specialists in the subject is a common suggestion for untangling complexity in large, intricate systems. The term "functional organization structure" describes this kind of setup. The lack of immediate ownership of the whole project, as well as the absence of cross-functional collaboration and sluggish communication across departments, might result from a silo-mentality brought on by this organizational setup.

Top-down techniques, in which specialists make decisions with little input from public, are also sought to deal with the complexity. According to Blanding and Kilic [9], both top-down techniques, where choices are decided by municipalities, planners, or experts, and bottom-up approaches, where people' input have an impact on decisions, have their proponents and detractors. Regional issues should be handled by planning authorities and specialists, while bottom-up approaches should be included into local decision making. In a democratic system, voters must have faith that their government will make choices that will devote resources to society objectives, but citizens cannot be indispensable to every process.

Not Attaining Intent of Participation

It is indeed clear from the discussions that have arisen and the attention given to urban planning in the local media that residents are interested in this topic; the problem is that their interest is focused in the wrong places. Citizens are seldom involved until Stage 5 of the planning process, when a more complete and understandable plan proposal is available. Since so much effort has already been put into the plan, and since the political planning committee has already voted and approved the plan, making changes at this point is impossible. That is to say, the goal of involvement is not being achieved. The people of Norway live in a highly democratic and open society. All material and relevant information is disclosed publicly, and the process is accessible to public examination. Our laws are written with the intention and duty of government involvement in mind. The issue, however, is not a lack of communication, but rather the difficulty in gaining perspective and understanding the point of plans, particularly in the outset.

Another difficulty is the widespread pessimism, particularly among developers. In the opinion of some, audience involvement will merely serve to bog down the proceedings rather than add anything to them. By imposing minimal conditions on participation, it may be possible to restrict access to some information or eliminate it entirely. This is an example of plan resistance minimization, often known as gatekeeping. If individuals become aware of it, they may become suspicious, mistrustful, and resigned to the system. If citizens have to take on powerful interests in order to participate, they may get confused and frustrated. Even if the government intends to become involved, it won't do so beyond the bare minimum if private sector developers and planners don't see the benefit.

In [10], when residents are brought in too late to the planning process, the resulting involvement is often less than beneficial, marked by resentment and animosity towards the planning authority and plans. When planning authorities connect involvement with unfavorable outcomes, it might harden their attitude against it. This is more justification for starting the wedding process early. It will take more time and money, but it will help get everyone on the same page by laying the groundwork for a solid data foundation, and if people are included in the process from the start, it may be possible to use less resources overall.

Lack of Quality in Communication

According to Gossel [11], the term "communicate" means "to make public, share, or educate". In order to be effective, communication—whether verbal, nonverbal, or via a tangible medium—must be clear and brief, focused on the context, and respectful of the diversity of perspectives among listeners or readers. The significance of good communication may be shown in the fact that poor communication is a leading cause of project failure. The fundamentals of communication consist of a sender conveying information via a medium of some kind to a receiver who then deciphers the information. It is important that they have a shared emotional reference point in the tone of voice in order to prevent misunderstandings.

Two-way communication is characterized by a fluid exchange of roles between the sender and the recipient. However, one of the issues with communication in urban planning processes is that information is frequently delivered without any effort to make a conversation out of it, leaving people without a method to reply, voice their view, or even be aware that the message is conveyed.

The second issue is that urban planning communication tends to be formal and bureaucratic. Statutes, rules, and a formal letter announcing something are all examples. In order to facilitate a shared knowledge of the underlying mechanics, formal communication tends to be strict and orderly. Citizens may be lost in the weeds of technicalities, nevertheless. However, in informal settings, it is the meaning and the connections between people that matter. It is very contextual, and the dynamic between individuals plays a big role. Both a lack of formal and informal communication may lead to confusion.

As a result of both uncertainty and ambiguity, individuals may lose faith in the planning processes. The public has to trust that the planning authorities are serious, thoughtful, and competent. One must also take into account the medium in which data is conveyed. Citizens are a diverse and nuanced demographic. Although it is almost impossible to communicate with everyone, it is crucial to choose appropriate channels if a significant portion of the population has to be reached. In today's highly digitized environment, there are many methods for getting the word out. Streaming and internet services are taking readers and listeners away from traditional media like newspapers (both in print and online) and simplified television and radio. Planners and municipalities can reach more people if they share information via the channels where those people already get their news and allow those people to react in the ways that are most natural to them.

VI. BREADTH AND ACTUALIZATION OF PARTICIPATION

The majority of today's residents who take part in planning procedures are either highly educated or resourceful, which presents a unique set of difficulties. Similarly, engagements are announced much too late. Both stem in part from insufficiently explained procedures, making it hard to understand how to make a meaningful contribution. Anyone with a stake in the plan's success should be consulted. It is important to explore the fundamentals of motivation and specific strategies for motivation since early engagement may be accomplished by encouraging people for involvement sooner. Addressing visual communication as a means of presenting the complexities of urban planning to residents is one of the finest ways to simplify the presentation of complex systems and processes. In addition, this will be elaborated upon further.

Motivation for Participation

Both internal and external factors may influence a person's level of motivation. To be intrinsically motivated, one must have an emotional connection to the task at hand, whether it via curiosity, delight, or a desire for a personal challenge. Extrinsic motivation is driven by factors outside of oneself, such as incentives, criticism, or public acclaim. To achieve the extrinsic aim, for instance, achieving the intrinsic goal may serve as a means. It is very uncommon for both to have a role in propelling an individual to success in a given endeavor, although some studies have shown that intrinsic motivation elements largely are more conducive for creativity.

Intrinsic motivation is typically the basis for public participation in urban planning. People care about the growth of their communities because of semantics, or their own set of beliefs. With a few notable exceptions, however, it seems that when extrinsic drive is combined with intrinsic motivation, the results are even more favourable for employee engagement. The first is if you are highly motivated on your own and are rewarded for going above and beyond. Second, 'information extrinsic motivators' such as positive reinforcement for a job well done and constructive criticism for areas of improvement tend to be more effective than others. The third factor is time. However, at the conception stage of a project, while looking for validation, extrinsic incentive might assist assess whether or not an idea is acceptable.

In most cases, it is the extrinsic incentive aspects that serve as the first spark that ignites the process. By considering extraneous variables, planners might expand their target demographic to include younger people and children. In certain cases, adding a little of fun to the procedure might help. The term "gamification" is the practice of incorporating game aspects into non-game settings to motivate and engage users in doing an unrelated activity. When executed well, it may help lighten the mood while yet maintaining the subject's seriousness. Giving people a way to explore planning procedures where prizes, challenges, or explanatory visuals play a large and balanced part might also assist untangle the knottiness of planning safely and interestingly for them.

People are motivated by gamification because it promotes mastery via problem solving, which in turn causes physiological responses. This may motivate individuals to do tasks that they normally would avoid. Various hormones and signal substances, such as dopamine, oxytocin, serotonin, and endorphins, are released during gaming, making players feel good about themselves because of the rewards they receive, the bonds they form with other players while working together to complete a task, the success they have achieved, and the pain they have overcome. Fun and gratifying entry points for individuals to become involved in urban planning include things like awards for participation, acknowledgement for their efforts, and even an upgrade to their "citizen status".

Information Visualization

According to Vázquez-Ingelmo, García-Peñalvo, and Therón, “MetaViz [12], information visualizations may relay a message by connecting secondary and primary data, allowing the recipient to understand without resorting to extensive research of the issue; this is preferable to reading the bureaucratic writing, which is often delivered in a tone of voice that people cannot relate to. The intangible may often be better understood via visual representations. The government's emphasis on digitizing to streamline operations means that user experience design for digital interfaces will become more crucial. Effectiveness, openness, and uniformity in planning procedures may all benefit from its use. Visualizations are useful because they make complex information readily available and understandable, illuminating not just the plan's goals but also its likely outcomes. Rather than just displaying images, effective visualizations should spark new ideas and provide the groundwork for learning.

Curiosity may be piqued and attention captured with visualization only by the use of interesting visuals. Collectively, this may help people think more clearly, leading to more well-formed viewpoints and more informed participation in debates and discussions, even among those who are not experts on the subject. The presentation of symbols plays a crucial role in the ways in which visualizations aid learning. Sensory symbols are universal and do not need learning; they are the symbols most often used to describe visuals. The right use of arbitrary symbols, like mathematical symbols, needs study and is easily forgotten. This is important to keep in mind while explaining urban planning to residents who are not professionals in the topic.

It is important to make visualizations more accessible via the use of sensory symbols. Structured connections may be shown using visual aids, while more nuanced and intricate reasoning can be explained in simple English. In many cases, a mix of the two is the most effective way to promote more in-depth learning. Careful planning is required before engaging in any kind of visualisation. Making something reliable and believable is an art form that needs training and experience. It has to be "ergonomic," or useful in a way that makes it easy to read. Regardless of whether it is a public or private ICT, all of Norway's systems must comply with universal design laws. While this provides some relief, it is nevertheless advised that experienced graphic designers, information architects, text composers, or anyone with experience creating visualizations be consulted for assistance.

By displaying data visually, visualizations may enhance the efficacy of communication in urban planning processes and increase its accessibility to the general public. By replacing bureaucratic language with illustrations of the process, it may make the structure more accessible to people and provide them the information and resources they need to learn more about it. Citizens should be given timely, contextual information, with options to go further if necessary.

VII. HUMAN CENTERED DESIGN

Warnke, Bratan, and Wunderle [13] argue that participatory approaches are desirable because they provide voice to the public and ground the planning they underpin in reality. Therefore, it is instructive to examine what planners may learn from other domains of practice, such as human-centered design, where involvement is crucial, and which are more used to it as a key factor in problem-solving. In order to avoid relying only on the opinion of specialists and academics, human centered design (HDC) is a catch-all term for a variety of design methodologies that aim to incorporate end-users, for instance citizens, and other important stakeholders in the problem-solving process. Some examples of HDC methodologies that are also participatory design methods are ethnographic research, empathic design, co-design, contextual design, and the lead user approach. Some of these techniques are geared at coping with the here-and-now, while others are more futuristically inclined. Methods also differ in how much weight is given to the opinions of researchers and designers vs. those of the end users.

Similar to ethnographic research, which focuses on the cultural practices of a specific group of people, HCD involves listening to individuals in order to learn about their unspoken wants and needs. Second, contextual design, in which research is carried out in a genuine situation, is a great way to learn about people's actual requirements by seeing their actions. What individuals create may be studied at a deeper level, revealing user strategies and hidden requirements. Co-design is an example of such an approach. Co-design is a method of design with a strong emphasis on user agency achieved via user participation in the solution-generation process. Among these advantages include a sense of personal investment in the outcome, more productivity, and more original thought.

Co-design needs a significant amount of time and facilitation, thus it may not be required to get to that stage in every planning process. The early phases might also benefit from other HCD approaches like ethnographic research, contextual design, and emphatic design to learn about people, their culture, and their preferences, thereby adding a human dimension to analysis, particularly if the methodologies are triangulated. A more complete picture is painted as a result of the fact that evidence from several sources might corroborate one another. Even while experts will still make the ultimate decisions, the public will have more of a say in the process, and the resulting plan proposal will be grounded not just in technical analysis but also in the priorities and ideals of the community at large.

VIII. DISCUSSION

Planning, designing, and regulating the applications of space inside cities with an eye on the built environment, economic operations, and social effects of the city's many activities. A result of its multifaceted character, urban planning may be approached as either an academic discipline or as a technical profession needing political will and public involvement. In

order to create additional open space ("greenfields areas") and revitalize already existing parts of the city, urban planning requires goal-setting, data collection and evaluation, forecast, design, innovative planning, and public engagement. In order to better map the present urban structure and forecast the impacts of changes, geographic information systems (GIS) have grown in popularity [14]. In the latter part of the twentieth century, the term "sustainable development" began to be used interchangeably with "best possible outcome" when referring to planning objectives. Our Common Future (1987), a report commissioned by the United Nations, defines sustainable development as "development that fulfills the requirements of the contemporary without compromising the capacity of future generation to satisfy their own needs." While everyone agrees on the overarching aim, they may not always see eye to eye on the specifics when it comes to planning.

Planning for cities as we know them now began as a social movement in the late 19th century in reaction to the instability of the industrial hub. Many of the leading minds of the period envisioned creating a utopian metropolis with no room for improvement, but they were also driven to plan by the pressing need to improve infrastructure like public health and safety, transportation, and public amenities. Modern planners make an effort to balance several objectives, such as those related to the economy, the environment, social equity, and aesthetics. The results of a strategic planning might take the shape of a formalized plan for a city or cosmopolitan area, a plan for a specific neighbourhood or project, or a set of policy options. Despite attempts to separate planning from politics, planners and their sponsors still need entrepreneurial spirit and political savvy to see plans through to fruition. Although planning is traditionally a government function, "public-private partnerships" increasingly include contributions from the business sector.

In the early 20th century, urban planning evolved as a distinct academic field. The University of Liverpool in the UK launched the first academic planning program in 1909, while Harvard University in the USA founded the first such program in North America in 1924 [15]. The curriculum varies greatly from institution to university, although most classes are at the graduate level. While some schools stick to the more conventional curriculum focused on architecture and urban planning, others, notably those awarding doctorates, place more of an emphasis on the social sciences. Because of its fluid nature, the theoretical heart of the field is better characterized by the problems it attempts to solve than by any one guiding paradigm or set of guidelines. Among the most prominent concerns are questions of who has the authority to act in the public interest, how that authority should be exercised, what the cultural and psychosocial characteristics of the ideal city should be, whether or not change can be achieved in accordance with conscientiously determined goals, how far consensus on goals can be achieved through communication, who the city's decision-makers should be (its citizens, state officials, or private investors), and whether or not quantitative methods are the best way to go about achieving change (discussed below). Courses on environmental policy, transportation planning, and infrastructure and social economic growth are typical in urban planning degree courses.

The development of urban planning

Early history

Ancient city centers all across the world have been excavated, revealing artifacts that witness to well-planned urban layouts. These centers include Central and South America, the Mediterranean, Asia Minor, Egypt, India, and China. The building of rectilinear and, sometimes, radial street patterns, the division of a city into several functional sections, the establishment of imposing central sites for palaces, monastery, and civic institutions, and the execution of sophisticated security, water system, and sewage systems are examples of early efforts at structured urban development. Most of it may be found in colonial-era minor cities, which were constructed rapidly. It was not uncommon for ancient nations' capital cities to expand significantly before centralized governments were established and equipped to impose order. In Europe, city-building slowed to a trickle for centuries during the Middle Ages. Over time, towns developed into political, commercial, cultural, and religious hubs. Overcrowding, a lack of fresh air and light, and appalling sanitary conditions resulted as cities were more hemmed in by walls and fortresses to contain their exploding populations. As is the case in various modern environments in the developing countries, some areas of the metropolis were confined to particular nations, classes, or trades.

Cities throughout the middle Ages and the Renaissance typically adopted the shape of a village, expanding out along a highway or a junction in a haphazard, circular pattern rather than the more typical rectangular layout seen in newer towns. Most European cities didn't have paved streets until the 12th century (1184 in Paris, 1300 in Lübeck and 1235 in Florence), and even then they were mostly just walkways used more for communication than transportation. A city's walls would be stretched to accommodate its growing population, although at the time, very few cities were longer than a mile. Cities such as Lübeck moved to new locations as their populations grew, and numerous new cities sprung up, usually within a day's walk of one another. Cities' populations varied widely, from a few hundred to as high as 40,000 (London in the 14th century; the city's population peaked at about 80,000 just before the Black Death struck). Cities such as Venice and Paris stood out, with populations of over 100 thousand.

During the Renaissance, Europeans once again made concerted efforts to organize urban space. The primary goal of these initiatives was frequently the exaltation of a state or ruler, despite the fact that they did help with circulation and military defense. Many magnificent cities were planned and constructed during the 16th and 18th centuries. The end effect may have inspired and thrilled the populace, but it did nothing to improve their health, their standard of living, or the efficacy of production, distribution, and marketing.

The ideas of European absolutism about planning were only partially adopted by the New World. This shift was highlighted by Pierre L'Enfant's ambitious design for Washington, D.C. (1791), and by subsequent City Beautiful initiatives that prioritized the aesthetics of public building placement at the expense of the practicality of residential, commercial, and industrial growth [16]. The strict grid design that William Penn created for Philadelphia, however, had a much more significant effect on the growth of urban planning in the U.S. (1682). Because it was the most straightforward strategy for partitioning surveyed land, this design was taken west by the pioneers. Despite its disregard for terrain, it helped build land markets by creating uniformly proportioned lots that could be purchased and sold without physically seeing the property beforehand.

The notion of a town square or other centrally positioned public space was fundamental to the design of many cities throughout the globe. In contrast, the plans' recommendations for residential construction were somewhat different from one another. The New England town's commons served as the centerpiece of community life and was home to the town's conference center, tavern, blacksmith, and stores; this design was later imitated by other American towns. The detached single-family home, common in today's big cities, was also a tradition that had its beginnings in this New England village. In European city layouts, the plaza, place, or square in the center had a similar function. However, the attached home predominated in European domestic architecture, in contrast to the detached house that was typical of American residential growth; while in other parts of the globe, markets or bazaars, rather than open spaces, served as the focal point of urban life. The Mediterranean was known for its courtyard-style homes, while many African and Asian communities were made up of enclaves of modest dwellings separated from the street by fences.

The Era of Industrialization

Rapid population growth, unrestrained economic activity, high speculative gains, and political failings in regulating the unexpected physical repercussions of development characterized the mid- to mid-19th century, when industrialisation thrived in both both the United States and Europe. Massive, ever-expanding cities sprung up during this time, showcasing the era's stark socioeconomic disparity. City planning was an important part of the Progressive movement, which arose in response to the pervasive corruption and abuse of power at the period. The response to the slums, congestion, disorganization, ugliness, and danger of illness was to call for an increase in cleanliness. Engineering advancements in water supply and sewerage is crucial to the continued rise of urban populations, significantly improved public health. The first major housing laws were changed in the latter part of the century. Minimum requirements for housing quality were established by early regulatory legislation (such the Tenement House Act of 1879 in New York and Public Health Act of 1848 in Britain). However, implementation was delayed since neither government nor the low incomes of slum residents provided incentives for landlords to renovate their structures. Nonetheless, advancements were achieved in the field of housing as new structures were built and new legislation continued to boost standards, often in response to the exposing of inspectors and activists such as Charles Booth in England and Jacob Riis in the U.S.

The Progressive Era, which lasted until the early 20th century, saw the development of initiatives to enhance the quality of life in urban areas in response to the growing demand for recreation. Parks were created so that people may get some fresh air and enjoy a peaceful environment to play or unwind in a healthy way. Playgrounds were developed out of congested areas, and sports and recreation centers were constructed for both adults and children as work hours were reduced in the decades that followed [17]. Those who advocated for the establishment of public parks reasoned that giving the working classes access to green spaces would have a civilizing influence on a population that was otherwise confined to substandard living conditions and hazardous environments. In the 1850s, architects Calvert Vaux and Frederick Law Olmsted had the idea for what would become Central Park in New York City. It helped by separating foot traffic from car traffic, by creating a picturesque setting in the middle of the city, and by proving that the addition of parks could significantly raise property prices in the region. For more on this, see "landscape design."

The European continent has a long history of valuing urban beauty, as seen by the imperial legacy of courts and palaces, as well as the large plazas and grand monuments of the state and church. Large, symmetrical layouts that featured straight arterial cobblestone streets, favorable vistas, and a systematic grid of squares and highways propelled Georges-Eugène, Baron Haussmann to notoriety as the most prominent urban designer of his day during the Second Empire (1852-1870) in Paris. The new urban planning concept was quickly replicated throughout the rest of mainland Europe. Haussmann's work, however, was about more than just making the city seem nicer; he also removed many of the obstacles to trade that had existed in medieval Paris, making it easier to move products and soldiers about the city quickly and efficiently. His plans called for the removal of low-income residents from central locations, the destruction of dilapidated tenements to make way for more upscale apartment buildings, and the creation of transit corridors and commercial space that cut through and separated neighborhoods. Throughout the majority of the 20th century, Haussmann's methods were used as a template for urban rehabilitation projects in United States and Europe, and their influence eventually reached most of the developing world.

American designer Daniel Burnham created the standards for the City Beautiful movement, and the World's Columbian Exhibition of 1893 in Chicago, which was the movement's finest accomplishment, reflected those standards. The exposition's architectural design created a pattern that was copied by countless other communities. Civic districts and boulevards around the country were thus built in the City Beautiful style, which is characterized by large malls and heroically positioned state buildings in Greco-Roman architecture, as a juxtaposition to and revolt against the surroundings

disorder and ugliness. Spreading the City Beautiful paradigm here in the United States proved challenging due to the concept's low potential for increasing business profitability and the government's much weaker position here.

Hausmann's method had a greater impact on the architecture of American civic centers and residential neighborhoods in Europe than the utopian idea of the garden city, which was first introduced by Pease and Severens [18]. With its low-rise residences on backstreets and cul-de-sacs, its separation of business and residential districts, and its ample open space brimming with flora, Howard's garden city had a form that was basically suburban in nature. Howard advocated for a "cooperative commonwealth" in which residents would split any increases in property value, public spaces would be owned collectively, and commercial and industrial zones would be compactly located near neighborhoods. The residential style established in the two additional towns built during Howard's life (Letchworth & Welwyn Garden City) was maintained by his successors, who, although rejecting his socialist ideas, modeled their own projects after the green city's winding avenues and verdant parks.

More than anything else, shifting transportation patterns have influenced the design of modern urban centers. As a result of the shift from human to industrial transportation, cities quickly expanded. Because of the rapid movement of commodities from the site of production to the market, workers were not restricted to living close to their workplaces. However, traffic congestion caused by cars and buses spread quickly across the city's historic districts. They emphasized the need of creating new forms of well-organized traffic flow by threatening to suffocate it. Towards the start of the twentieth century, when subway systems were being constructed in New York, London, and Paris, transportation networks inevitably became a focus of planning. In order to accommodate the increase in traffic, communities have invested vast sums of money into constructing and widening roads.

Multiple local governments established planning divisions during the initial three decades of the twenty-first century. A number of significant events occurred in 1909 that formalized urban planning as a modern governmental duty. These included the approval of Britain's first town-planning law, the hosting of the first national convention on town planning in the U. S., the publication of Burnham's plan for Chicago, and the formation of Chicago's Plan Commission (Nevertheless, in 1907, Hartford, Connecticut established the first official U.S. planning organization). Planning administration and legislation were also created at this period in European nations like Germany and Sweden.

European ideas on urban planning were imported by colonial empires and implemented in developing-world metropolises. As a consequence, it was not uncommon for a brand new city to spring up next to an older, uncontrolled community, both of which suffered from the same problems that plagued medieval European cities despite having been designed according to Western ideas of beauty and division of purposes. The Indian capital city of New Delhi is a prime example of this trend in urbanization. It was designed by British architects Herbert Baker and Edwin Lutyens and constructed right next to the maze of Old Delhi's streets [19]. While the new city provided conveniences and amenities better suited to modern living, the old city afforded its residents a feeling of community, functionality and historical continuity. Salisbury, Southern Rhodesia and Nairobi, Kenya are only two examples of capital cities in British-ruled Africa that were planned specifically to meet the needs of their white colonial masters. French planners also inserted spacious boulevards and European-style homes into colonial homes, despite the fact that the ornamental elements launched by France in its colonial capital signified a rather different aesthetic sense.

Urban Forms

Sub-division and Zoning Controls

During the first half of the twentieth century, Western industrial towns quickly developed, resulting in the fast encroachment of industries into residential districts, the crowding in of tenements amid tiny dwellings, and the eventual overshadowing of smaller structures by skyscrapers. In order to keep property values stable and to accomplish efficiency and economy in the planning and operation of the city, authorities recognized a necessity for sort out contradictory activities, set some constraints upon building height, and protect existing districts from despoilment. The projected patterns of traffic, population size, and infrastructural developments were all laid out in detail. Zoning regulations, first implemented in the early twentieth century, were the major mechanism for achieving these objectives. Importantly for the purposes of urban planning, zoning regulations separated various uses of urban space by establishing maximums for building width and height within delineated regions (zones).

As a result, the city's residential, industrial, and commercial districts were separated. In addition to shielding residents from potentially unpleasant nearby uses, zoning also exacerbated traffic and congestion and limited activity in some areas of cities to specific times of the day. Disagreements arose as a result of some zoning regulations. Zoning laws in the United States have been challenged in court because of their need of big single-family houses on vast lots, which makes it difficult to provide affordable housing for low-income families. As a result of judicial overturns, certain states have implemented laws to address the problems caused by exclusionary zoning. The original layout of undeveloped property in the United States is now subject to public regulation thanks to the rise of subdivision rules, which developed in tandem with zoning. These rules dictated how future buildings should look and made sure that new roads fit in with the general layout of the city. Depending on the local zoning laws, developers may be responsible for providing the land for public amenities like roadways, playgrounds, and school grounds, as well as footing the bill for their construction.

New towns

Many European nations, including the Soviet Union, Germany, the Netherlands, and France, built new towns (whole new communities outside of city centers) as postwar government projects. Governments, worried about what they saw as too much congestion inside metropolitan areas, built these new towns to absorb the population expansion from the suburbs and move it into planned communities. Some British cities, like Milton Keynes, were able to attract both industry and people inside low-rise conurbations, although this was unusual outside of the Soviet Union. The Swedish government has successfully built high-rise, mixed-income neighborhoods for people of varying economic levels. The Tapiola low-rise ensemble in metropolitan Helsinki, Finland, incorporated many of Howard's groundbreaking concepts and design principles.

For the most part, however, new town development in France, Spain, Belgium and Italy resulted in enormous, uninviting high-rise residential constructions for the working and middle class on the urban periphery. Seaside, California, Irvine, Maryland, Columbia, Virginia, and Reston are all examples of post-war American new towns that depended significantly on private initiative. However, some tiny privately planned suburbs existed before these initiatives were undertaken. These included Riverside, Illinois, a planned city west of Chicago created by Frederick Law Olmsted in 1868–1869. Although they are widely dispersed, some of the world's best examples of modern, well-planned towns may be found in unexpected regions like India, South America and the Middle East.

Large, highly populated, and sometimes gridlocked megacities emerged throughout Asia after World War II as a result of the region's newfound ability to sustain an industrial economy. Numerous Asian governments met the problems of rapid expansion by launching massive construction projects, such as skyscraping office buildings, shopping malls, apartments and restaurants, and new airports. Shanghai's Pudong New Area, spanning both sides of the Huangpu River from the city's historic center, was developed by the Chinese government in a little over a decade. However, many developing countries are still preoccupied with political and economic matters, and as a result, they have made little advance in supporting sustainable organizational strategies that may assist them avoid the unclean conditions that afflicted Urban centers in the late nineteenth century.

Participatory Planning

Participatory planning approaches face a number of obstacles, but they may provide significant advantages if they are implemented properly. The intricacy of modern planning systems leaves the average person confused. It is tough to make a positive contribution if one does not know what to do. Positive community development, particularly at the local level, may result from planners gaining insight into not just the technical needs, but also the quantitative requirements rooted in residents via participation in the planning process.

At the outset, we need to ensure that the general public has a deeper familiarity with and appreciation for the planning process. To do this, the planning authorities must maintain open lines of communication. When people do not know what is going on, there is confusion and maybe even distrust of the procedures. People need to know what is in it for them, how much sway their input will provide them, and how far the plan will go. The purpose of citizen engagement is not to displace professionals but rather to strengthen the evidence basis upon which they may make judgments. Opposition to change and conflicts are likely to reduce if people's recommendations are respectfully accepted. Planners need to be receptive to feedback and suggestions at every stage. The secret to successful group issue solving may lie in being open, honest, and cooperative.

Information must be readily available and presented in a manner that does not presume prior understanding of complex planning procedures on the part of the general public. Citizens who take part nowadays tend to be self-reliant or highly educated, which suggests that average citizens are not yet at ease with participation. Technical jargons have their place, but they should be left at the office and forgotten about while conversing with friends. However, the message must be conveyed clearly and concisely, preferably supported by illustrative visuals that map out the process, improve comprehension, and pique individuals' interest. Last but not least, the knowledge must be disseminated through citizen-friendly channels of communication and made available for discussion between residents and planners [20].

Further, public participation has to be encouraged at an earlier stage, ideally before a formal plan proposal is submitted. In order to do this, planning processes may make use of the tools made available by human-centered design approaches, which are developed from the design process itself. The use of gamification is another approach that, by offering extrinsic motivating elements, may help bring about a more rapid onset of participation. This may be especially helpful for local planning, where it seems to be good to support bottom-up procedures. There will always be a debate about whether or not the recommended attempts to develop participatory processes are worthwhile in light of the resources spent on it and the gains made. There are signs that it is worthwhile, but further research is needed before drawing any firm conclusions.

IX. CONCLUSION

Engaging citizens early in the process (while plans are still dynamic and open to change) is optimal since locals know the place best and may give useful insights and information. It seems that effective communication is crucial for this to occur. Since no two planning processes are the same, it is unrealistic to expect them to adhere strictly to a single blueprint. Instead, planners may benefit from feedback on which tools and techniques work best for them. It is essential to get insight from previous procedures, familiarize oneself with the local populace, and adjust procedures appropriately. This might

help find strategies to solve the problem that do not force planners to waste money on unneeded resources but instead allow them to reorganize their funds so that they can better serve the process. If they invest more time and energy into planning from the outset, they may save themselves time and energy in the long run when they are not forced to defend their ideas so vigorously. Citizens feel more invested in initiatives when they are able to contribute to them. By including the public in planning for their neighborhoods, crucial details will not be missed and can be discussed openly from the start, which should lead to better results for everyone involved.

References

- [1]. A. A. Santander and A. A. Garai-Olaun, "Urban planning and sustainable development in the 21st century, conceptual and management issues," *IOP Conf. Ser. Earth Environ. Sci.*, vol. 44, p. 032005, 2016.
- [2]. S. Shahawy, C. Onwuzurike, A. Premkumar, A. A. Henricks, and M. A. Simon, "Perspectives of women of refugee background on healthcare needs in a major urban metropolitan community in the US: A qualitative needs assessment," *Health Soc. Care Community*, 2022.
- [3]. M. Vicuña and D. Galland, "Urban Planning," *The Wiley Blackwell Encyclopedia of Urban and Regional Studies*. Wiley, pp. 1–13, 07-Aug-2018.
- [4]. N. Srivastava and R. Shaw, "Enhancing city resilience through urban-rural linkages," in *Urban Disasters and Resilience in Asia*, Elsevier, 2016, pp. 113–122.
- [5]. W. J. Brady and J. P. Crannell, "Hydraulic fracturing regulation in the United States: The laissez-faire approach of the federal government and varying state regulations," *Vt. J. Environ. Law*, vol. 14, no. 1, p. 39, 2012.
- [6]. C. Crăciun, Ion Mincu, University of Architecture and Urbanism, Romania, A. I. Gârjoabă, and Ion Mincu, University of Architecture and Urbanism, Romania, "Integration of instruments for the protection of natural protected areas in urban and biodiversity strategies and in urban planning regulations," in *World Lumen Congress 2021*, 2022.
- [7]. M. K. Fageha and A. A. Aibinu, "Identifying stakeholders' involvement that enhances project scope definition completeness in Saudi Arabian public building projects," *Built Environ. Proj. Asset Manag.*, vol. 6, no. 1, pp. 6–29, 2016.
- [8]. "Ministry of local government and modernization," Scytl, 14-Apr-2021. [Online]. Available: <https://www.scytl.com/resources-and-references/customers/ministry-of-local-government-and-modernization/>. [Accessed: 03-Dec-2022].
- [9]. W. M. Blanding and A. Kilic, "Commentary: Transcervical left ventricular assist device outflow anastomosis: A top-down approach to sparing the sternum," *JTCVS Tech*, vol. 7, pp. 195–196, 2021.
- [10]. "The role of local residents and developers in the planning system, House of Commons, 12 June 2018," Gov.uk. [Online]. Available: <https://www.local.gov.uk/parliament/briefings-and-responses/role-local-residents-and-developers-planning-system-house>. [Accessed: 03-Dec-2022].
- [11]. B. M. Gossel, "Analogies in entrepreneurial communication and strategic communication: Definition, delimitation of research programs and future research," *Int. J. Strat. Commun.*, vol. 16, no. 2, pp. 134–156, 2022.
- [12]. A. Vázquez-Ingelmo, F. J. García-Peñalvo, and R. Therón, "MetaViz – A graphical meta-model instantiator for generating information dashboards and visualizations," *J. King Saud Univ. - Comput. Inf. Sci.*, 2022.
- [13]. P. Warnke, T. Bratan, and U. Wunderle, "Public engagement in the tradition of participatory approaches – an approximation," in *Putting Responsible Research and Innovation into Practice*, Cham: Springer International Publishing, 2023, pp. 123–146.
- [14]. X. Wu, W. Dong, L. Wu, and Y. Liu, "Research themes of geographical information science during 1991–2020: a retrospective bibliometric analysis," *Geogr. Inf. Syst.*, pp. 1–33, 2022.
- [15]. H. P. Kulterbaev, M. M. Shogenova, L. A. Baragunova, A. S. Tsipinov, and M. Z. Kумыkov, "Optimization of soil movements when planning terrain," *IOP Conf. Ser. Earth Environ. Sci.*, vol. 579, no. 1, p. 012053, 2020.
- [16]. "European absolutism: Principles, causes and consequences - history - 2022," *Journal Mural*. [Online]. Available: <https://en.journalmural.com/absolutismo-europeo-principios>. [Accessed: 03-Dec-2022].
- [17]. "The Progressive Era," *American History*, 16-Oct-2019. [Online]. Available: <https://american-history.net/the-progressive-era/>. [Accessed: 03-Dec-2022].
- [18]. J. H. Pease and K. Severens, "Charleston: Antebellum architecture and civic Destiny," *Am. Hist. Rev.*, vol. 95, no. 2, p. 588, 1990.
- [19]. M. Bigg, "Delhi: The Indian City home to Asia's largest spice market," *Scottscheapflights.com*, 30-Nov-2022. [Online]. Available: <https://scottscheapflights.com/guides/delhi-indian-city-asias-largest-spice-market>. [Accessed: 03-Dec-2022].
- [20]. Great Britain, *The freedom of information act 2000 (commencement no. 3) order 2003*. Norwich, England: TSO, 2003.