

Implementation Problems of Social and Technical Infrastructure in Turkish Settlements

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Abstract: In urban settlements, social and technical infrastructure has a critical significance. There are three main problems related to social technical infrastructure in Turkish settlements: their site selection in local plans, the provision and implementation and sustainability of social and technical infrastructure areas. Problems about site selection in local plans and the provision emerged as a result of the adoption of neoliberal policies. Problems about implementation and sustainability of social and technical infrastructure areas can arise with plan changes and plan notes. The paper is focused on the third problem. That is, the paper aims to analyze how social and technical infrastructure areas were used for out of purpose on Istanbul case. For this, plan changes in the last ten years are examined. The findings are important for the holistic evaluation of social and technical infrastructure in urban areas.

Keywords: social and technical infrastructure; provision; implementation; Istanbul, Turkey

1. Introduction

Urban areas are places where individuals live and their accommodation, transportation, education, health, worship, socio-cultural needs are interacted and together in urban areas. Social and technical infrastructure areas are the areas where individuals meet all their needs except accommodation, and they play an important role for cities and citizens. All functions in the city are in constant interaction and have a dynamic structure. If the number and type and location of the social and technical infrastructure are shaped according to the housing population, physical and economic characteristics and social structure, it provides a regular and balanced development of the dynamic structure of the city (Cetiner, 1991). The need for social and technical infrastructure to be provided by public or private sector varies according to the planning approach. The financing of social and technical infrastructure areas by the public or private sector also changes on a national and local scale. The quality and quantity of social and technical infrastructure areas affect the welfare and economy of the city (Ennis, 2009).

In Turkish settlements have three basic problems relate to social technical infrastructure. First is related to the site selection of social and technical infrastructure areas in local plans. Second is related to the provision of social and technical infrastructure. Third is related to implementation and sustainability of social and technical infrastructure areas.

Firstly, site selection of social and technical infrastructure areas in local spatial plans is significant problem. They are determined in a way that it can respond effectively to urban needs according to

traditional planning approach. Neoliberal policies directly affect the site selection criteria that affect the city structure (Turk, 2017). While public institutions are aimed to maximize the social benefit in site selection, the private sector pursues a maximum profit-making policy. It is stated that the facilities belonging to private enterprises or non-profit organizations prioritize the principle of efficiency and efficiency and weaken the approach of equality and accessibility for all people (Pakoz, 2014). In parallel, site selection of social and technical infrastructure areas directly affects the land values and the city economy.

Secondly, there are also problems related to the provision of social and technical infrastructure. According to the traditional planning approach, public services and facilities are provided by the public under the welfare state approach. The social and technical infrastructure areas respond to the needs of the citizens in terms of quality and quantity, and they are established in public lands and operated by public institutions, and it results as positive (Cetiner, 1991). With the adoption of neoliberal policies in the 1980s, the situation has changed. Cities have become a part of capital and power for the state and have been used as an income tool. With the influence of neoliberal economic policies, special social and technical infrastructure areas have increased. Private land development tools are being used much more than public land development tools. For example, the study on health facilities demonstrates that the number of private health facilities has also increased (Pakoz, 2014).

Thirdly, there are problems in the stage of the implementation and the sustainability of social and technical infrastructure in Turkey. Social and technical infrastructure areas can be used out of purposes with plan changes and plan notes that are not properly implemented. After the implementation of local plans, that means the transition of the social and technical infrastructure areas to public ownership, these areas can be used out of purposes.

This paper focusses on the third problem. That is, the paper aims to analyze how social and technical infrastructure areas were used for out of purpose on Istanbul case. This paper contains six sections. Second section gives the definition and significance of social and technical infrastructure areas in general. Third section includes social and technical infrastructure areas in Turkey. This section is divided into three parts. While first part gives legal structure, second part explains the implementation tools. Third part gives using social and technical infrastructure areas out of purpose. Fourth section includes the analysis. Fifth section explains the findings of the analysis. Last section is devoted to conclusion.

2. Social and Technical Infrastructure Areas

The cities have a settlement hierarchy and is grouped as follows; housing, housing group, small neighborhood (10 housing groups), neighborhood (5 small neighborhoods), primary school (2-3 neighborhoods), district (2-3 elementary school settlement), urban unit (2-3-4 districts) (Cetiner, 1991). It is stated that the main infrastructure areas like administrative facilities, social facilities, cultural facilities, educational facilities, health facilities, technical reinforcement areas are required for the urban unit (Cetiner, 1991). Social and technical infrastructure areas are determined according to the standards, but it differs for each country and city and it is stated that generalization cannot be made (Eker and Ersoy, 1980). Social and technical infrastructure areas are grouped as education, health, green and sport fields, management areas, socio-cultural facilities and transportation, and the site selection is important (Ersoy, 2015). Social and technical infrastructure areas are beneficial services that ensure the continuation and development of living conditions in the urban areas. Social and technical needs need

to be addressed together and it is important to improve the conditions of the city (Alnsour, 2016). For example, the importance of green areas, is well known. It is stated that the parks need to be supported in terms of transportation and should be planned by considering their distance. At the same time, the needs of the population addressed in the design of these areas need to be taken into consideration. Management and protection is important after the application (Guo et al., 2018). As it is understood, all social and technical infrastructure areas, such as parks, are in constant interaction and have a dynamic structure. It needs to be planned as a whole. Access distances should be taken into consideration and emphasized that the city should be designed according to the needs of the city. Protection and management play an important role in ensuring sustainability.

Social and technical infrastructure areas and social benefit have an important role in increasing the quality of life of the city and the inhabitants and providing justice and equality. Plans are made for the purpose of public interest. Social benefit is taken into account in the planning and implementation of social and technical infrastructure areas. It should not be made according to the benefit of a particular group or individuals. Planning, implementation or changes in social and technical infrastructure areas should also take into account the interests of the whole community. In addition, the quality of life of the city and its inhabitants is directly proportional to the quality and quantity of infrastructure areas. The purpose of urban planning as improving the quality of life (Ciftci, 1999). The provision of social and technical infrastructure in an equipped manner ensures that individuals are happy in the city where they live (Tas et al., 2017). While the cultural sector, which is one of the social and technical infrastructure areas, affects the urban economy, it also emphasizes the role on the quality of life (Koramaz and Koramaz, 2017). For example, green areas, which are one of the social infrastructure areas, are directly influential on human health (Pouya, 2017). The open green areas have a balancing role with their economic, ecological, social, social and physical aspects and increase the quality of life of urban residents (Tepe, 2018). In addition, the importance of social and technical infrastructure in terms of ensuring justice and equality is emphasized. Infrastructure areas, easy, convenient and accessibility in the choice of places to be more qualified, efficient and cheap service will be provided to more users (Ciftci, 1999). Increasing accessibility and quality of educational facilities, which is one of the social infrastructure areas, provides equal opportunity (Turk and Dokmeci, 2017). Accessibility and effectiveness should be taken into account for all individuals of the society in order to ensure social and technical infrastructure and justice and equality. Infrastructure areas should be equal and accessible to all people as they aim to meet the needs of all individuals of the society (Pakoz, 2014). The presence, absence and quality of infrastructure services affect the city's welfare and the city economy and help the real estate market. For the realization of these objectives, infrastructure services should be widely and easily accessible (Ennis, 2009).

3. Social and Technical Infrastructure Areas in Turkey

3.1. Legal Structure

Given the legal process in Turkey; settlements and structuring in these settlements; plan, science, health and environmental conditions to be compatible with the Reconstruction Law No. 3194 land use is provided. Within the framework of this law, there are regulations in which plans and plans are changed according to which criteria are defined and standards are specified. These standards are valid for urban areas at whole of country. In this context, the first regulation, the Regulation on the Principles of Plan Making was published in 1985 and numbered 18916 and entered into force. The Regulation on Making

of Spatial Plans published in 2014 no: 29030 has been repealed. Finally, the Planned Areas Development Regulation was published in 2017. The Planned Areas Development Regulation covers the areas in the implementation of local spatial plans and there is no general definition in the form of social and technical infrastructure areas. In the Regulation on Making of Spatial Plans, social and technical infrastructure areas are defined under sub-headings, and minimum standards and minimum field sizes are determined according to different population groups. The first article of the Regulation on Making of Spatial Plans is that the minimum standards and field sizes of urban, social and technical infrastructure, specified in the ANNEX-2 Table of this Regulation shall apply. This material is compatible with the regulatory planning system determined in Turkey is noted that areas of general social and technical infrastructure and standards based preparation to be applied. The second clause of the Regulation on Making of Spatial Plans is that in accordance with the principles determined by the Ministry of minimum standards or if the top level land use plan at the province level is determined by the standards determined. These two items contradict each other and it is observed that the transition from the regulatory planning system to the planning approach based on discretion is observed (Erdem Okumus and Turk, 2017).

In Article 11 of the Regulation on Making of Spatial Plans is that: If the minimum size for the use of education, health and religion in the local spatial plan revisions and changes is not enough as minimum size as in this regulation, area size is determined by plan in accordance with the proposal or opinion of the relevant public institution. With this article, it is possible to implement the practices which are not in compliance with the standards by taking the opinion of the related institution and also the investors do not have to provide the required size in case they adhere to the general standards (Erdem Okumus and Turk, 2017). In addition, in the Regulation on Making of Spatial Plans, the phrase “*made by public or private sector*” is included in the definition of social and technical reinforcement areas. Thus, the privatization of services and areas is normalized and the public cannot give these services. Public and private enterprises need to be defined separately and the provision of these services by the private sector hinders the use of public spaces for public benefit (TMMOB Chamber of City Planners, 2014).

3.2. Implementation Tools of Social and Technical Infrastructure in Turkey

These services are provided by public institutions as well as in the welfare state understanding so that social and technical infrastructure areas can be accessed and used equally by all. Since urban areas are predominantly private, public access is ensured by the public institutions. Tools that used to implementation of local plans and the transferring to public ownership of these areas are in Turkey; ‘voluntary method’, ‘expropriation’, ‘land readjustment’ and ‘plan notes’. The acquisition of these areas can be made by public power or by the consent of the people.

Voluntary method is a means that is applied depending on the consent of the person and the others are carried out by public power. The method of voluntary abandonment is an instrument that is applied with the consent of the owner, and it is converted into a parcel of land parcel by dividing or joining. In practice, it is a method used to obtain the building permit of the property owners. The demand of the owners of the property is the function of provincial cadastral parcels as defined in the local spatial plan. Depending on the size of the parcel, assembly or division is applied (Turk, 2003b). However, 15th and 16th article of Reconstruction Law no 3194 describes how to perform the process of land assembly and division, which, in contrast to what is perceived in practice, is not a method used to create urban plots (Turk, 2003b). However, due to the existence of exceptions to the regulations, it is a method used by

the municipalities to produce the parcel as land readjustment (Turk, 2003a). Since the necessary areas for social and technical infrastructure are provided free of charge, the municipalities are attracted to the owners of the property from which they have been granted the permission of local spatial plan. But it enriches owners with little interruption (Ersoy, 2005). This situation may create inequalities among the owners (Turk, 2003a).

Land readjustment is also referred to as the dough method and all parcels in regulation area are assumed as a whole, and then plan is implemented like single parcel. Some public services are free of charge up to 40% as contribution percentage. According to Reconstruction Law No. 3194, public services and public use areas are divided into two sub-groups. Public service areas such as primary and secondary schools affiliated to the Ministry of National Education, road, square, park, car park, children's playground, green ground, place of worship and police station are obtained as free of charge as contribution percentage with up to 40% of the scope of land readjustment. The second group of areas are allocated to public facilities such as hospitals, kindergartens, recreation areas, municipal services or other facilities. The areas in the first group are the services of the local government and the services under the second heading are mostly the duties and responsibilities of the central government or provincial administration (Turk, 2003a). While the land readjustment method is using, social justice is provided for share the areas to all those who benefit from the service for the second group (not regulating contribution percentage (DOP in Turkish)) areas (Ersoy, 2000). The owner of the property cannot sell or use it for any other transaction because the public parcel is functionally publicized until the parcel is publicized (Kocak, 2014). In addition, this method provides the implementation of the plan as a whole (Meshur, 2008) and the city development planned (Turk, 2009).

The expropriation is the tool used for public services, regardless of the consent of the owners of the property, for the payment of the cost of public services. Expropriation is defined as the acquisition of property by public legal entities and institutions by paying the price in cash (excluding some privileges) in accordance with the decisions of the immovable and resources of the private persons for public benefit (Ersoy, 2005). It is used to obtain areas that are not covered by the contribution percentage when using the tools of land readjustment. In cases where the contribution percentage is more than 40%, this method is used for the areas in the first group. The expropriation of the property required for public investment in small projects accelerates the project (Boztoprak et al., 2015). However, in case of a budget shortage, the integrity of the plan deteriorates and the implementation of the plan may be prolonged. An application that limits or even eliminates the right to property causes the property owner to be expropriated because he does not provide the property owner with the opportunity to acquire immovable property. It is stated that expropriation is a method that causes long, expensive and unequal among individuals (Ersoy, 2005). In addition, all shareholders during the expropriation of the shares that are shared after the land readjustment can cause the process to be prolonged since they are negotiated and purchased (Turk, 2003a).

Plan notes, the implementation of local spatial plans are organized, the plan is considered as a whole. Plan Notes are not a detail of the plans, but an essential part (TMMOB Chamber of City Planners, 2016). It is defined as a binding section that provides spatial form and order for the application in order to explain and regulate the plan decisions. He states that the plan notes are a whole with the plan decisions, they are related to the local spatial plan and they aim to give detailed information about the local spatial plan (Turk, 2018). In the case of more than 40% of the social and technical infrastructure areas determined in the local spatial plan, municipalities should be expropriated, but these methods are

not implemented due to lack of budget (Turk, 2018). Alternative solutions are very attractive for municipalities since they do not offer bargaining opportunities for the real estate owners of the existing implementation methods (Turk, 2003a). This means that these methods are attractive for the municipalities, so that they solve the problem of expropriation cost of municipalities as well as obtain public space free of charge (Turk, 2003a).

According to the first paragraph of Article 1 of Protocol No. 1 of the ECHR (European Court of Human Rights), it is stated that a person may be deprived of his property or property only from the public interest. It is understood that the confiscation of the property of the persons can only be carried out with the reason of public interest. These areas, which are obtained both by public power and with the consent of the person, cannot be used except for the purposes specified in the Reconstruction Law no 3194.

3.3. Using Social and Technical Infrastructure Areas Out of Purpose

Plan changes can be made in order to change socio-economic conditions and to eliminate some problems encountered (Sesli and Karadavut, 2009). However, in practice, it is emphasized that the plan changes are not made in accordance with the main purpose (Hasol, 20008). Disregarding public interest, future concerns and the changes in plans made according to the interests of certain groups reveal negative results in the urban areas (Sesli and Karadavut, 2009). Plan notes are all together with the plan decisions and provide detailed information and explanations about the plan decisions during the implementation phase. However, with the plan notes, social and technical reinforcement areas can be used outside the scope of the plan. If the owners of the property are more than 40% of the areas corresponding to the public use, they do not leave the volunteers, so the plan notes and the owners of the property are compromised (Turk, 2018).

There are various reasons for the privatization policies of the states or public-private cooperation, especially for finance, but evaluating the social and technical infrastructure areas of the public in this context may lead to the use of these areas beyond the objective (Emoh et al., 2016). It is stated that social and technical infrastructure areas, which are in the hands of the public, can be used for non-objective changes that are not appropriate for their purposes (Kokturk, n.d.). It is emphasized that the social and technical infrastructure areas of the public have been transferred to the private sector in order to privatize and support the investor (Hasol, 2008). The areas where privatization practices are most effective under the neoliberal policies are the areas where the public is traditionally maintained. In these applications, the public interest is ignored and the urban area is used as a rent vehicle (Erdem Okumus and Turk, 2017). Social and technical infrastructure areas are transformed from public service to investment decisions that contribute to market economy. In this way, public spaces are transferred to private property or by the investor for public service. These practices are trying to provide convenience to entrepreneurs in the private sector, but planning legislation is prevented and ignored (Erdem Okumus and Turk, 2017).

Planning is a process which consists of planning and implementation stages and it is a successive process that triggers each other in both stages. In this section, the use of the social and technical infrastructure areas outside can be evaluated under two sections. First is interventions to social and technical infrastructure areas with plan decisions. These interventions can be categorized under three parts. First part includes changes related to social and technical infrastructure areas against to the standards defined in the regulation. Second part contains changes land use functions of social and technical areas. Third part includes interventions related to increase in development rights for provision

of social and technical infrastructure areas. Second interventions state using social and technical infrastructure out of purpose after plan implementation. These interventions can be categorized under two parts. First parts include transferring to private person or private sector. Second part contains changes of function related to social and technical infrastructure areas after plan implementation (See Figure 1).

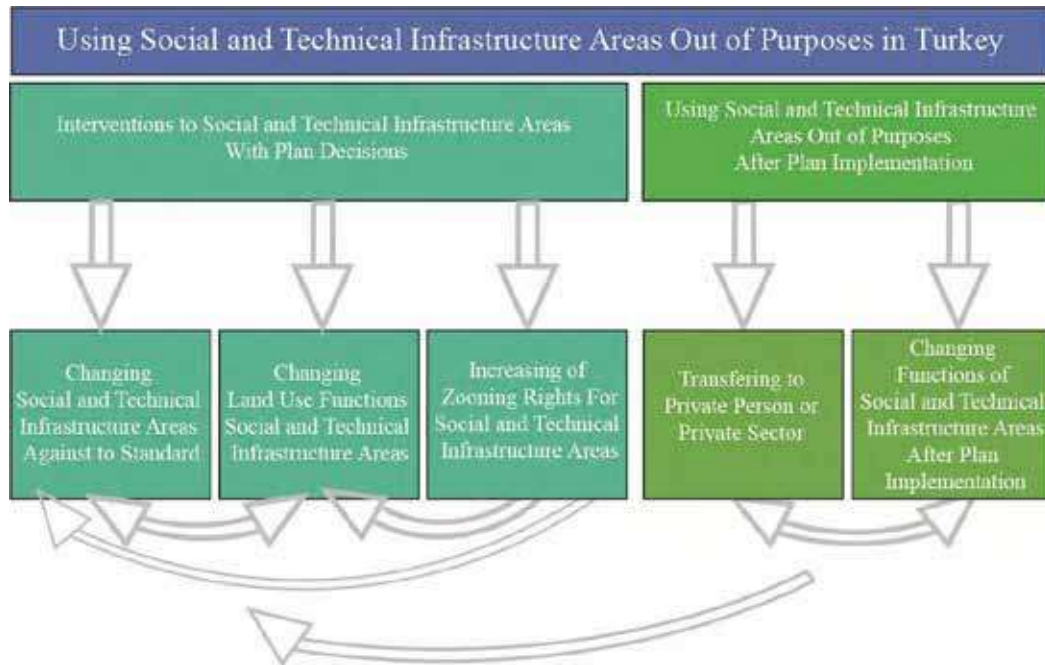


Figure 1: Using social and technical infrastructure areas out of purposes and their relations (Source: Illustrated by the author.)

4. Analysis

4.1. Research design

In order to select sample areas, the local spatial plan and plan changes, which were planned in the Istanbul Metropolitan Municipality Council between 2008-2018, were examined. The Planning Directorate has benefited from the data in the IMOS (İmar ve Şehircilik Otomasyonu (Zoning and Urbanization Automation)) system and has been detailed according to the Parliamentary Decisions within the scope of the analysis. After the examination, the selection was made among the areas according to the usage groups. Five type of problem is defined about using social and technical infrastructure areas out of purposes. A total of 25 sample areas were selected for each of the five problem mentioned above. In the sample areas, the results of using social and technical areas out of purpose were analyzed.

In the analysis of the results of the using social and technical infrastructure areas out of purposes; plan modifications and plan notes were examined. The files of the selected areas, council decisions, plan changes, plan objections and plan proposals were reviewed. After the examination, the social and technical infrastructure areas (social benefit, quality of life and justice and equality) were analyzed and their results were analyzed in the areas selected for each subheading ('changing social and technical infrastructure areas against to standard', 'changing land use functions social and technical infrastructure areas', 'increasing of development rights for social and technical infrastructure areas', 'transferring to

private person or private sector’ and ‘changing functions of social and technical infrastructure areas after plan implementation’). As seen Table 1, there are lots of result in urban areas.

Social Benefit		
Life Quality	Man-Made Environment	Plan Integrity
		Population and Structure Density
		Regional Transportation
		Local Transportation
	Social Environment	Land Value
		Income
		Need
		Service Quality
	Economic Environment	Land Value
		Service Price
		Supporting Investors
		Privatization
	Health	
Ecology		
Fairness and Equality	Accessibility	
	Income	
	Public Policy	Public Use
		Privatization
	Compliance with Reconstruction Law no.3194	

Table 1: Results of Using Social and Technical Infrastructure Areas Out of Purposes (Source: Illustrated by the author.)

4.2. Findings

According to the analysis of interventions with plan decisions to social and technical infrastructure, increasing the development right with the plan notes results negatively in terms of fairness and equality with aspect of compliance with Reconstruction Law no.3194. In addition to not complying with the Reconstruction Law no. 3194, increasing the development rights with plan notes can also result in a change in function and a change in the standard of social and technical infrastructure areas. Increasing the development rights with plan notes is a method that provide easiness in practice. This method is developed as a result of inadequate implementation due to lack of budget, the rights of the property owner are protected and even the right to additional development right can be granted. However, with this practice, social benefit is not taken into consideration and it causes the production of rent. It reduces the quality of life and may result in the deterioration of urban identity. At the same time, this decision, which disrupts the integrity of the plan, also results in the plan becoming dysfunctional.

The social benefits are not taken into account in the plan changes that are examined. It is seen that the changes have positive results in the economic environment (although some of them are individual) with the analyzed aspects. It can be stated that positive results are observed in terms of quality of life in terms of economic environment in the examined areas. However, in the built environment; plan integrity, population and structure density, transportation, in social environment; land values, income, needs aspects emerge negative results and it can be expressed that the quality of life is decreasing. In the examined areas, fairness and equality cannot be provided mostly through the examined aspects. In transferring to private person or private sector, there is more negative result than in changing functions of social and technical infrastructure areas after plan implementation. Changing land use functions

social and technical infrastructure areas (sub-group of interventions with plan decisions to social and technical infrastructure) is differentiated with changing functions of social and technical infrastructure areas after plan implementation as aspect of that areas are in public property. In case of transferring to private person or private sector, there can be privatization of the public areas. These areas are acquired in public ownership for public benefit reason. Privatization may result in both changing the ownership of these areas and using these areas out of purposes. In cases where there is no change of ownership, the private sector operates the public areas.

As a result of the field analyzes, the most negative result is in the increasing development rights with the plan notes (sub-group of interventions with plan decisions to social and technical infrastructure). These practices are unlawful by the judiciary. In the context of the using social and technical infrastructure areas out of purpose after plan implementation, it is seen that more negative results occur in the urban area when transferring to private sector or person.

In conclusion, social and technical infrastructure areas are using out of purposes with plan decisions. These situations lead to negative results in terms of life quality and social benefit. Increasing in development rights with plan notes are not in accordance with the Reconstruction Law no 3194. Besides, social and technical infrastructure areas are using out of purposes after plan implementation. This causes more negativity in terms of quality of life, social benefit and justice and equality. But in many aspects, it increases the quality of life economically with the analyzed aspect as individually.

5. Conclusion

Social and technical infrastructure has a critical significance. There are three main problems related to social technical infrastructure in Turkish settlements. The paper aims to analyze how social and technical infrastructure areas were used for out of purpose on Istanbul case by examining plan changes in the last ten years.

Plan changes can be made out of purposes both in planning stage and implementation stage. Moreover, plan notes are also used out of purposes in planning stage. Interventions with plan decisions to social and technical infrastructure areas can be with both plan changes and plan notes. 'Increasing development rights for the areas' occurs with plan notes. 'Changing the areas against to standard' and 'changing land use functions of the areas' occurs with both plan notes and plan changes. 'Increasing development rights for the areas' causes the another two. Using social and technical infrastructure areas out of purposes after implementation also cause 'changing the areas against to standard' and 'changing land use functions of the areas'. There is more problem in this stage that these areas are in public ownership and are purposed public benefit.

All problems result negative effects on urban areas as aspect of social benefit, life quality and fairness and equality. Plan integrity, population and structure density, transportation, land value, income, need, service quality and price, supporting investors, privatization, health, ecology, accessibility, public use and compliance with Reconstruction Law no.3194 are the issues of using social and technical infrastructure areas out of purposes.

Within the scope of this paper, the suggestions developed for the identified problems are as follows:

- In order to control the density resulting from plan change, it is necessary to limit the density of the plan notes and plan changes. If a plan change is made, a plan note should be added as to maintain the current precedent.
- Within the scope of transferring the increasing value in the urban space to the public, the protocols with the private sector should be transparent. The balance between the private sector's income and the benefit it provides to the society needs to be established. In order to achieve this, the protocols (planning agreements) should be placed on the ground in Public Law. Plan notes should not include expressions that disrupt plan decisions and the plan notes prepared in this way should not be approved and applied.
- The development programme of municipalities should be mandatory. In case of failure to prepare the development programs, it is necessary to define clearly what kind of problems will arise.
- As the projects and plans that direct the development of space in the city also direct the preferences, lifestyles and needs of the inhabitants, it is necessary to ensure the participation of the citizens in the decision-making process that encompasses the whole of the city, as well as to increase the sanction power of the local government. In this context, raising awareness of the citizens is also of great importance.
- After implementation of local plans, with plan changes, it can be observed that the transfer to the private sector or the person. In parallel with the quality of service within the scope of public-private cooperation, the price of services also increases. Since planning is the first priority to ensure public interest, the price of the service should be taken under control as publicly available
- Intelligent management, which is a component of smart urbanism, will provide transparent and participatory decision-making policies. In addition, the use of virtual reality applications in the implementation of the plans will enable the understanding of the results of the plans in the third dimension. The effect of the plan changes on the main plan decisions can be determined in this way, the main plan decisions and the results that may emerge in the urban space can be determined before the implementation.

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