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Plan Interventions Through Revisions/Changes Within the Scope of Disaster Law No. 6306:
The Case of Sivas, Türkiye

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ABSTRACT

This study analyzed, within the scope of disaster law, the suitability of intervention methods used via revisions and changes in plans designed for reserve building areas and areas designated as at-risk. A four-stage methodology was employed: collecting archival documents, digital data, and interview findings; performing a comparative technical analysis of the abrogated and current zoning plans regarding density, social infrastructure, transport network, and functional changes; evaluating changes in terms of plan continuity and integrity; and synthesizing the results to propose recommendations. In the risk area, the current plan reduced the population by 37% and increased social reinforcement areas by 90%, as compared with the previous plan. In the reserve building area, the population increased by 73% and social reinforcement areas grew by 40%, although 90% of these areas did not meet per capita standards.

KEYWORDS:

Disaster Risk, Disaster Law, Urban Regeneration, Plan Changes, Intervention Methods, Urban Planning, Sivas

INTRODUCTION

Urban areas have a complex and dynamic structure, consisting of physical, social, economic, legal and administrative components (Roberts & Sykes, 2000). Urban areas are subject to aging, change and intervention. There are many reasons for this, including population growth, economic development, urban accessibility and disaster risks (Tekeli, 2003). Such factors may cause incompatibilities, deterioration and regression within the different dynamics that make up a city. In city centers, some areas of degeneration have been abandoned and/or have become industrial, commercial, public or disaster risk areas. Additionally, some areas contain buildings destroyed by war, or that no longer contribute to the city's economy—these areas require urban regeneration. Urban regeneration helps these spaces and structures regain their vitality, thus enhancing quality of life for the city's inhabitants (Yenice, 2014; Yıldız, 2013).

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Regeneration processes offer unique approaches and outcomes in various global contexts. One example of urban transformation, within the scope of this study, is Medellin, the second largest city in Colombia. Medellin has a challenging land structure, low-income urban areas, and a high level of criminal activity. The city carried out improvements and renewal works across economic, social, and cultural areas, as well as spatial infrastructure and superstructure spheres. In the city of El-Poblenou in Barcelona, the aim was to transform the old industrial area into one with new workspaces, public buildings and green areas. In both cities, smart city tools were used by private sector, local government, citizens and civil society organizations as they carried out joint studies (Torun & Bektaş, 2022).

Understanding a city's history is crucial for gaining a comprehensive view of contemporary urban regeneration strategies and practices. In European cities, historically shaped by the Industrial Revolution, World War II, and the ensuing post-war reconstruction, there have been three notable transformative phases. The first of these was the rapid urbanization triggered by the Industrial Revolution (Türkün, 2015). The second included reconstruction of cities destroyed during the Second World War, and the creation of state welfare policies (Türkün, 2005). Neoliberal policies affected the third transformation process that emerged in the second half of the 1980s.

In Türkiye, there have been three main problems caused by urban regeneration practices carried out within a neoliberal framework of urbanization policies. Firstly, transformation projects have proved ineffective at creating settlements with a high quality of urban life. Secondly, urban regeneration practices cannot be used effectively as a tool to reduce disaster risks or increase adaptation capabilities. Finally, by not treating cities holistically, urban regeneration plans have been disruptive regarding the continuity and integrity of planning decisions (Terzi, 2017). Urban regeneration plans have led to fragmented interventions, with revisions and changes following each declared intent for urban transformation (Bektaş, 2022; Kılınç, 2021).

Across the world, urban planning is shaped by different approaches and systems. The relationship between plan changes and urban regeneration differs, based on each country's legal regulations, economic conditions, and urban development needs. At the international level, plan changes are handled through both regulatory (plan-based), and project-based systems. Practices in different countries provide important clues about these two approaches (Booth, 2003; Kılınç & Türk, 2021; Needham, 2007; Steele & Ruming, 2012).

In the United Kingdom and the United States, for example, urban development is often guided by project-based systems. In the United Kingdom, the project-based system emphasizes flexibility and case-by-case decision-making. Plans are advisory rather than legally binding and planning authorities are given wide discretionary powers. In this system, urban regeneration projects are usually handled within the framework of large investment projects, using flexible planning tools (Booth, 2003; Steele & Ruming, 2012). Plan changes in the United Kingdom often serve large-scale urban regeneration projects that are supported by similarly large-scale, public-private partnerships. For example, regeneration projects in the Docklands area in London offer successful examples of project-based, flexible planning practices (Carmona et al., 2003).

In the Netherlands and Germany, regulatory (plan-based) systems are more common. In these two countries, the hierarchical structure of plans (ensuring consistency across different levels of planning) and the requirement for certainty in their implementation are both emphasized. Once approved, plans become binding, and any modifications can only be made on grounds of public interest (Rivolin, 2008). In Germany, plan changes and urban regeneration processes are rigorously monitored by public authorities; changes are only accepted if they are in line with accepted policies. This approach provides clarity and accountability in planning processes, even for large-scale projects (Buitelaar et al., 2011). For example, urban regeneration projects in Berlin have been realized successfully through strict adherence to long-term plans (Needham, 2007).

In Spain, urban regeneration projects are usually implemented through public-private partnerships a hybrid of both systems. Although project-based approaches are at the forefront, the legally binding nature of plans is maintained. In Spain, plan changes are usually handled within the scope of major

infrastructure projects or transformation works in tourism regions and these processes have an inherent flexibility (Alfasi, 2006). Urban regeneration projects in Barcelona for the 1992 Olympics offer an example of how both plan-based and project-based approaches can work together (Rivolin, 2008).

The Turkish planning system has been shaped by global trends, while developing its own distinctive framework. Urban planning in Türkiye has undergone a rapid transformation, especially in recent years. The planning system in Türkiye has a hybrid structure that includes both regulatory and project-based approaches; plan changes are often utilized to increase the feasibility of urban regeneration projects. Urban regeneration projects in Türkiye are frequently connected with efforts to regenerate areas at risk of disasters. Law 6306 is an important tool in the urban transformation process it stands out as a regulation that encourages plan changes and project-based implementations, providing project-based flexibilities and enabling rapid interventions, especially in areas at risk of damage from disasters[1] (Ersoy, 1997). Urban transformation projects have gained momentum under this law, leading to large-scale changes in many cities across Türkiye. For example, transformation projects implemented in big cities such as Istanbul and Ankara were realized through plan changes and the flexing of existing zoning plans (Balaban, 2012).

Plan changes in Türkiye create both opportunities and challenges for urban regeneration projects. On the one hand, plan changes are an important tool for the feasibility of rapid transformation. On the other hand, the incompatibility of these changes with upper-scale plans (e.g., regional, spatial strategy plan, environmental plan, urban development plan) can create problems with maintaining urban integrity (Kılınç & Türk, 2021). Plan changes, especially in big cities, accelerate urban transformation projects. They can lead, however, to criticism regarding their environmental and social impacts (Bektaş, 2022). Additionally, while the relationship between urban regeneration and plan changes in Türkiye follows some international examples, Türkiye's unique dynamics and the legal regulations developed for areas under disaster risk have caused this process to develop its own unique structure. The way urban regeneration processes in Türkiye are managed through planning amendments needs to be carefully monitored, at both local and national levels.

In general, when urban regeneration practices or plans cause a large-scale density increase, social and technical infrastructure areas at the urban scale are reduced and opportunities for area improvement may be lost. While urban regeneration practices may be an opportunity to increase social infrastructure standards, this opportunity might not be taken advantage of, due to projects having different priorities (Yılmaz Bakır et al., 2018). Indeed, problems that appear to have only recently emerged in cities may be a repetition of problems that were not fully and correctly addressed in the past (Roberts & Sykes, 2000).

When discussing the concept of urban regeneration in Türkiye, the Marmara earthquake in 1999 provides an important case study (Özden, 2010; Tarakçı & Türk, 2013). Administrations that had previously ignored issues of urban renewal, transformation, reconstruction and development suddenly realized their importance after the earthquake. Since then, disaster risk has been on the agenda of administrations, with attempts made at conducting planning and urban regeneration using a disaster-oriented approach. The Kahramanmaraş earthquakes in 2023, that affected fourteen provinces, once again revealed the importance of prioritizing urban transformation, and proving that urban planning must work effectively within existing legal and administrative frameworks to create cities resilient to disasters (Öztürk et al., 2023).

Experience gained after such disasters have helped Türkiye develop successful response and recovery strategies, however there is more to do. International developments in disaster management emphasize the importance of reducing disaster-related losses *before* they occur. This requires disaster management based on a clear understanding of risks. Adoption of a disaster risk management approach at national levels, as well as at central and local levels, along with comprehensive and coordinated implementation, are all vital for the effective construction of disaster-resilient cities (Akbulut Başar, 2025; Bozkurt & Çiçekdağı, 2022; Gerdan, 2021; Kurada et al., 2023). Global frameworks help shape how countries approach their own disaster risk reduction and promote urban resilience. In

the Hyogo framework action plan, established at the World Conference on Disaster Risk Reduction, Japan, 2005, all nations were invited, as a national and local priority, to make, "Support the creation and strengthening of national integrated disaster risk reduction mechanisms, such as multi sectoral national platforms." (United Nations International Strategy for Disaster Reduction [UNISDR], 2005, p. 6). Such platforms aim at both understanding and preventing hazards related to disasters and emergencies at the national level, thereby increasing society's awareness of disasters and ensuring continuity of risk reduction strategies. This approach involves integrating risk reduction into plans, policies and programs, at all levels of government and policy-making.

Following the Hyogo framework action plan, the Sendai framework for disaster risk reduction, adopted at the Third United Nations World Conference on Disaster Risk Reduction, Sendai, Japan, 2015, was a comprehensive global road map. Involving all UN member states and building on the Hyogo framework action plan, the Sendai framework aimed to mitigate disaster risk world-wide by 2030, stating: "[This plan aims to] significantly reduce disaster risk and the loss of life, livelihood, health and economic, physical, social, cultural and environmental assets of individuals, businesses, communities and countries due to disasters" (Kurada et al.,2023).

Anchoring these discussions in Türkiye's national legal context, the 2012 injunction, law 6306, had the widest scope of any urban regeneration legislation in Türkiye to date. It included measures aimed at reducing material and moral damage in case of disaster and described the tools needed to ensure necessary and rapid interventions; it also provided assistance and support to citizens living in areas of urban regeneration (Güzeldağ, 2019).

Within the scope of law 6306, the main research problem has been the emergence of fragmented and unsustainable areas with increased population density. In such areas, the social and technical infrastructure standards required by the relevant legislation cannot be provided, leading to unpredictable changes in function. Law 6306 promotes the creation of healthy and safe living spaces in accordance with science, and develops national standards for urban regeneration areas.

The aim of this study was to analyze the suitability of interventions made through plan revisions and changes in officially designated risk-evident and reserve building areas, within the scope of disaster law 6306. These interventions included those regarding urban density, social infrastructure balance, transportation and functional decisions, and were made by considering the findings of a field study conducted on plan integrity and sustainability. This research hypothesized that, as urban regeneration plans increase population and building density, already insufficient social and technical infrastructure cannot be developed—even at the minimum levels required by regulations—to meet the needs of a growing population. Existing physical conditions in the plans, therefore, cannot be improved; this leads to the integrity and sustainability of plans being damaged by fragmentary plan regulations.

In this context, the researchers sought answers to the question: Is there an increase in population density in plan regulations for urban regeneration areas? Additionally, if so:

- Is the social and technical infrastructure required by the increasing population organized at the rate specified in the regulations?
- Has the transportation infrastructure improved?
- How might the regulations affect the integrity of the plan?

Within the scope of this research, the focus was on the balance between population and social facilities, and the balance between population increase, transport and functional changes. It should be noted that issues such as disaster risk reduction and risk management were excluded from the scope of this study.

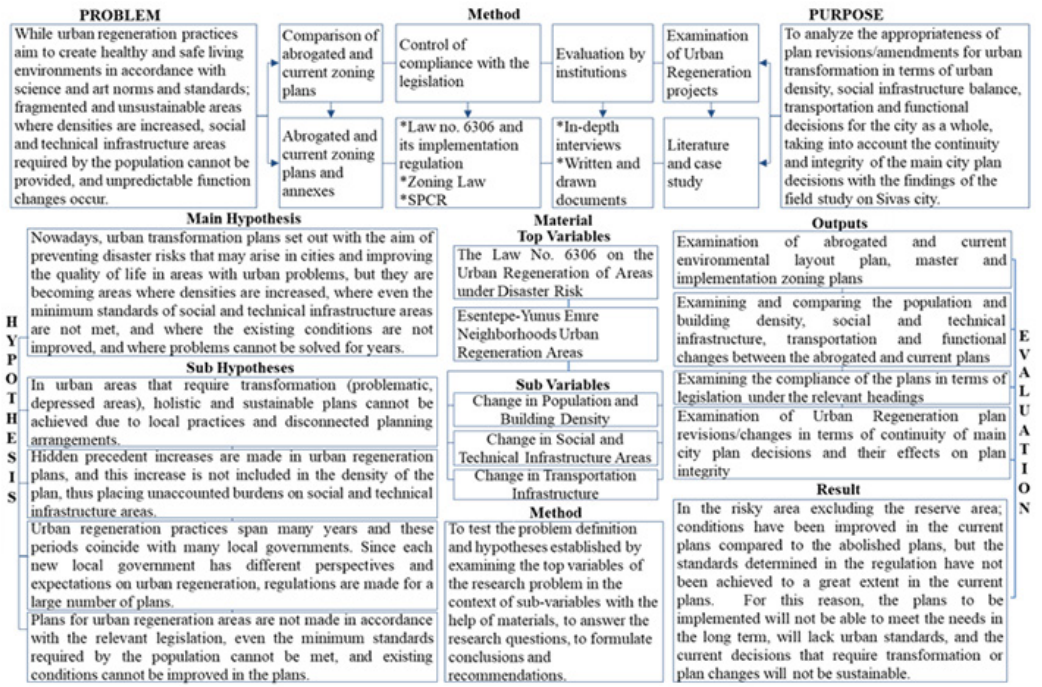
Insights gained from Türkiye's urban regeneration experience under law 6306 could potentially inform policymakers and practitioners in other regions facing similar risks of natural disasters and rapid urbanization (United Nations Human Settlements Programme [UN-Habitat], 2020). Lessons learned in this sphere highlighted the importance of balancing short-term project feasibility with

long-term urban integrity, environmental sustainability, and social equity. This article argues that such policy-oriented considerations have the potential to enhance resilience, not only in Turkish cities, but in global contexts where disaster risk reduction and urban transformation intersect.

MATERIALS AND METHODS

The methodology of this study involved four stages, based on the sample field studies shown in Figure 1. Because the Esentepe-Yunus Emre and Altuntabak neighborhoods are the only officially declared urban regeneration sites in Sivas, they were selected as the primary case areas. In the first stage of the research, the abrogated and current plans, plan explanation reports, council decisions, ministerial approvals, existing maps, photographs and projects of the practices were obtained. Archives of the Sivas Municipality Zoning and Urbanization Directorate and the Urban Regeneration Directorate were utilized to collect the relevant data. Following a systematic content analysis procedure comprising data organization, initial reading, coding, theme development, and interpretation, the authors employed a qualitative case study approach for the in-depth interviews conducted with officials in the relevant units (Creswell, 2014).

Figure 1. Working flow diagram



In the second stage of the study, researchers examined the abrogated and current zoning plans for the sample areas, as determined within the scope of the study. This was explored in terms of compliance with the principles regarding plan revisions and changes in the spatial plans construction regulation (SPCR). In the context of changes affecting density—the first heading in the examination as determined by the literature review—areas were analyzed under two subheadings: population density and building density. The construction areas were compared, based on the conditions for construction

as specified in the abrogated and current plans. Accordingly, the planned populations were calculated and comparisons determined regarding usage areas, construction areas, population changes and ratios to the usage areas in the abrogated and current plans. Regarding the second area, changes in social and technical infrastructure areas were analyzed in terms of accessibility and adequacy (m^2/person). The adequacy criteria in social and technical infrastructure areas were analyzed based on the sub-criteria of area size (m^2), per capita area size (m^2/person), and minimum unit area size (m^2). Following the service impact radii as specified in the SPCR, the social and technical infrastructure areas in the abrogated and current plans were analyzed in terms of accessibility, with determinations made regarding any change in accessibility status.

Under the third heading, transport grading was examined. First, second- and third-degree vehicle roads and pedestrian roads were defined on the diagrams. Spatial change, diversity, continuity, intersection solutions and car parking regulations in the transport routes were also evaluated. Road widths were tested and assessed based on the distance formula outlined in the Spatial Plans Construction Regulation (SPCR), which ties the required separation distance between two buildings (and thus the road width) directly to the buildings' floor heights. Under the fourth heading, changes in function areas were analyzed for changes such as increasing, decreasing, relocating or completely removing the uses (in terms of area and ratio) in the plans. These changes were evaluated by tabulating them in terms of area (m^2), and ratio (m^2/person).

The third stage of the research involved several components. First, data were collected from the field, and the relevant literature was reviewed to identify any existing issues. Next, the previously defunct (mülga) and currently enforced (meri) plans were compared to evaluate how interventions addressed these problems. The continuity between plans, urban density, social infrastructure balance, transportation and functional decisions, and function changes in terms of the continuity and integrity of the main urban plan decisions were all important factors, and were duly investigated. Finally, researchers interpreted the results obtained, in line with the actors, economic, social and environmental objectives, and temporal findings.

In the fourth and final stage of the research, upper and lower variables within the scope of the urban regeneration law were tested in the light of the research problem, hypothesis and questions; the results are presented present below, along with recommendations for future research and action.

TYPES OF ZONING PLAN REVISIONS AND CHANGES IN THE TURKISH PLANNING SYSTEM

During the preparation of zoning plans, decisions are made based on several elements. These include the needs of the population size determined in the plan, urban density, social and technical infrastructure needs, transport decisions and other uses that change and diversify, depending on local characteristics. For zoning practices to respond to the needs of the city in an accurate and efficient manner, population and density decisions must be implemented by considering a plan holistically. Depending on the magnitude of developments during the implementation process, the plan is reviewed, then reconsidered through zoning plan revisions. Changes made in limited areas within a narrower scope can be realized through zoning plan changes. In revision zoning plans, decisions and planning objectives envisaged in the plan are updated, depending on new conditions that emerge during the implementation process. In this respect, revising zoning plans creates a new plan, one in which decisions based on new developments are made on the basis of the plan's integrity—although many decisions may also be made that do not require revision.

To determine whether the desired balance between population and social facilities has been achieved in revised zoning plans, it is necessary to consider changes in population across the entire area of the revised plan. The calculation of technical and social infrastructure areas required by this projected population increase must take into account the minimum standards, as defined in the table

of the SPCR in annex 2: standards for minimum social and technical infrastructure areas in different population groups and minimum area sizes.

Zoning plan changes, on the other hand, are defined in article 26 of the SPCR as "changes that do not disrupt the main decisions, continuity, integrity, social and technical infrastructure balance of the plan, [made] for public interest purposes, based on technical and objective justifications." (T.C. Resmî Gazete [Turkish Official Gazette], 2014, Article 26). Based on issues specified in the relevant regulation, changes are grouped into three categories. The first involves changes related to social and technical infrastructure areas. These include increasing, decreasing, removing or relocating urban infrastructure areas, such as education and health facilities, areas of worship, green areas and spaces designed for transportation. The second category covers changes regarding population increase. With such changes, it is important to design social and technical infrastructure that meets the needs of an increasing population, allocating proper resources accordingly. The third category involves changes to transportation needs, such as widening, narrowing, or altering road routes (İnceyol, 2021; Kılınç & Türk, 2021). For this study, a fourth category was added—that of planning changes for alterations in function. This included increasing, decreasing, removing or converting any functional area designated in the plan into an area with different use. An example would be transforming a residential area into a commercial area, or a commercial area into a tourism facility (Büyükcivelek & Varol, 2021; Ersoy, 2000; Sesli, & Karadavut, 2009).

Changes Regarding Social and Technical Infrastructure: Related Legal Regulations

During the preparation of zoning plans, areas should be allocated for social and technical infrastructure. This is done by considering how an area's size corresponds to the predicted population increase, within the table of standards and minimum area sizes for minimum social and technical infrastructure areas as detailed in the annex of SPCR. If urban planners wish to change something after the fact, article 26 of the SPCR stipulates that there should be no changes to zoning plans that may reduce social and technical infrastructure standards. Additionally, it states that such infrastructure should not be removed, reduced or relocated, unless deemed mandatory. In such mandatory cases, it is obligatory to consider provisions such as obtaining institutional opinions and allocating an equivalent space within the service impact area (Ersoy, 2000; T.C. Resmî Gazete, [Turkish Official Gazette], 2014).

Pursuant to the provision specified in law 6306, it is now possible to make plans and plan changes that contain "special" standards, in addition to the minimum standards for social and technical infrastructure areas in the SPCR—but only if the Minister of Environment, Urbanization and Climate Change deems it appropriate (T.C. Resmî Gazete, [Turkish Official Gazette], 2019). This is true only for applications in risk areas, reserve building areas, and for locations with at-risk buildings. Within this law, the authority to determine urban standards as "special" in plan decisions paves the way for the reduction of social and technical infrastructure standards; it may lead to developments that lack necessary standards and lessen quality of life in areas that are to be renewed (Aldemir & Doğan, 2015). For this reason, although allowed by this legislation, it is vital to ensure that the minimum standards for social and technical infrastructure areas are met. Such standards are the most important planning elements in improving quality of life, especially in locations requiring urban regeneration.

Changes Affecting Density: Related Legal Regulations

Social and technical infrastructure required by increases in population should be allocated to areas subject to any zoning plan change. This should be done in accordance with legal standards, regardless of population density. If there is to be an increase in the number of building stories, the minimum distance between opposite building facades should be calculated according to the formula specified in the regulation. There is an obligation within that legal article to prepare an urban technical infrastructure impact assessment report and analysis in order to determine the impacts on urban

technical infrastructure and to take the necessary measures in zoning plan changes that increase density or affect the urban transport system. (T.C. Resmî Gazete [Turkish Official Gazette], 2014, Article 26).

If land value increases in areas where plan changes will be made, the regulation regarding value increase share for zoning plan changes, article 5, states that: "Plan changes subject to value increase should be made in accordance with the characteristics of the settlement, provided that they do not disrupt the main decisions of the plan, continuity, integrity, social and technical infrastructure balance and provide technical justifications" (T.C. Resmî Gazete [Turkish Official Gazette], 2020, Article 5)

However, in zoning islands with a surface area of at least 1000 square meters, plan changes that increase the population, building density, number of stories, building height or change of function, or social and technical infrastructure uses, require changes to the plan. These changes should be made on the basis of meeting required social and technical infrastructure uses within a radius of maximum 500 meters from the center of the island (T.C. Resmî Gazete, [Turkish Official Gazette], 2020).

Article 8, which was added to zoning law 3194 on February 20, 2020, involves the "transfer of the value increases that will occur with the zoning plan change to the public." Regulation No. 31245 further explains this by introducing the concept of a 'value increase share,' meaning the portion of any resulting property value increase that must be allocated to the public. Article 8 was enforced after its publication in the official gazette, dated September 15, 2020. Article 7 of this regulation states: "Upon the request of all immovable owners, the entire increased value of the land whose value increases as a result of the zoning plan change to be made on island basis is taken as a value increase share." Exceptions are provided for areas and transactions not subject to any value increase, stating:

> *No value increase share will be taken from the risk areas within the scope of the Disaster Law No. 6306, reserve building areas, plan changes regarding the increased part of the existing building up to one and a half times the construction precedent in the parcels where the risk building is located. (T.C. Resmî Gazete [Turkish Official Gazette], 2020, Article 7)*

Although such situations may be attractive for the private sector, they may also pave the way for practices that might have unfair consequences for tenants.

Changes to Widen, Narrow or Change Road Routes: Related Legal Regulations

The 26th article of the SPCR states:

> *In the event that road areas in the zoning plans are removed with a plan change, an arrangement can be made in such a way that the total amount of open and green areas such as parks, squares, playgrounds obtained from the arrangement partnership share is not reduced.*

The zoning plan stipulates, regarding changes regarding the widening, narrowing or routes of roads, that continuous roads cannot be narrowed. Additionally, a traffic road narrower than 10 meters cannot be opened, land parcels cannot be accessed from roads narrower than 7 meters, and it is illegal to establish a dead-end road without a vehicle return course. In addition, under the responsibility of the General Directorate of Highways, the law stipulates that any changes made on the highways must comply with rules that all state road and pavement widths should be determined based on predicted traffic density. In addition, it is obligatory to prepare an urban technical infrastructure impact assessment report and analysis in order to determine the impacts on urban technical infrastructure and take necessary measures in zoning plan changes that increase density or affect the urban transport system. (T.C. Resmî Gazete [Turkish Official Gazette], 2014, Article 26).

Zoning Plan Changes for Function Changes: Related Legal Regulations

Zoning plan alteration regarding changes of function are addressed in abrogated regulation (Yavuz & Sertyeşilışık, 2019). Article 24 contains provisions intended to prevent disruption of the plan's integrity. When changes are made, the following points should be addressed:

- The reason for and purpose of zoning plan changes;

- How social and technical building areas and car parking needs, specified in the regulation, can be fulfilled;
- What measures are taken to ensure that the direction of the development and size of the settlement are not adversely affected;
- What measures are taken to keep the distribution of functions in land use consistent—for instance, when a certain land use is discontinued, ensuring that a suitable alternative area is allocated in its place (Tekinbaş, 1991).

The primary issue is that any proposed use should not disrupt the integrity of the master plan. Additionally, it should not lead to a change in the direction of the development, size, or functional distribution of land use, nor the general densities of the settlement. According to the regulation, changing the plan's main components is only possible by revising the zoning plan itself (Ersoy, 2000).

In the next part of the study, factors were questioned in the light of the field study conducted on the urban regeneration area of the Esentepe-Yunus Emre and Altuntabak neighborhoods. Factors included investigating the appropriateness of plan revisions in building areas declared within the scope of the disaster law 6306—specifically regarding urban density, social infrastructure balance, transportation decisions and functional decisions.

Urban Regeneration Areas in the Esentepe-Yunus Emre and Altuntabak Neighborhoods

The research area in this study encompassed the Esentepe, Yunus Emre and Altuntabak neighborhoods, all central neighborhoods of Sivas city, located in the central region of Anatolia. According to the address-based population registration system, the 2019 population of Esentepe neighborhood was 6,585 and the population of Yunus Emre was 6,314—a total of approximately 14,000 people. In the urban regeneration area of Esentepe Yunus Emre, 71% of the buildings were unlicensed and 86% of them had been built in violation of the zoning legislation (Sivas Belediyesi, 2019). An area of approximately 77.6 hectares was declared an at-risk area, within the scope of law 6306.

In the Esentepe-Yunus Emre neighborhood, 20 hectares of land were declared a reserve building area. This land was owned by the treasury of Sivas municipality and individuals within the borders of Altuntabak, located near the risk area (Sivas Belediyesi, 2022).

FINDINGS

Analysis: Urban Density

Density values in the zoning plans were evaluated using building and population density. Based on the calculated data from the repealed 2014 zoning plan and its construction conditions (33,332 people), the population density decreased by approximately 37% when compared with the revised 2019 zoning plan data and construction conditions (21,093 people). With the addition of 2,554 people to the population, the previously established increases for island-based construction, as outlined in the current zoning plan, resulted in a reduction in population of approximately 29%, down from the original 37% (Figures 2 and 3).

Figure 2. The Esentepe-Yunus Emre neighborhood risk area, 2014 abrogated implementation zoning plan

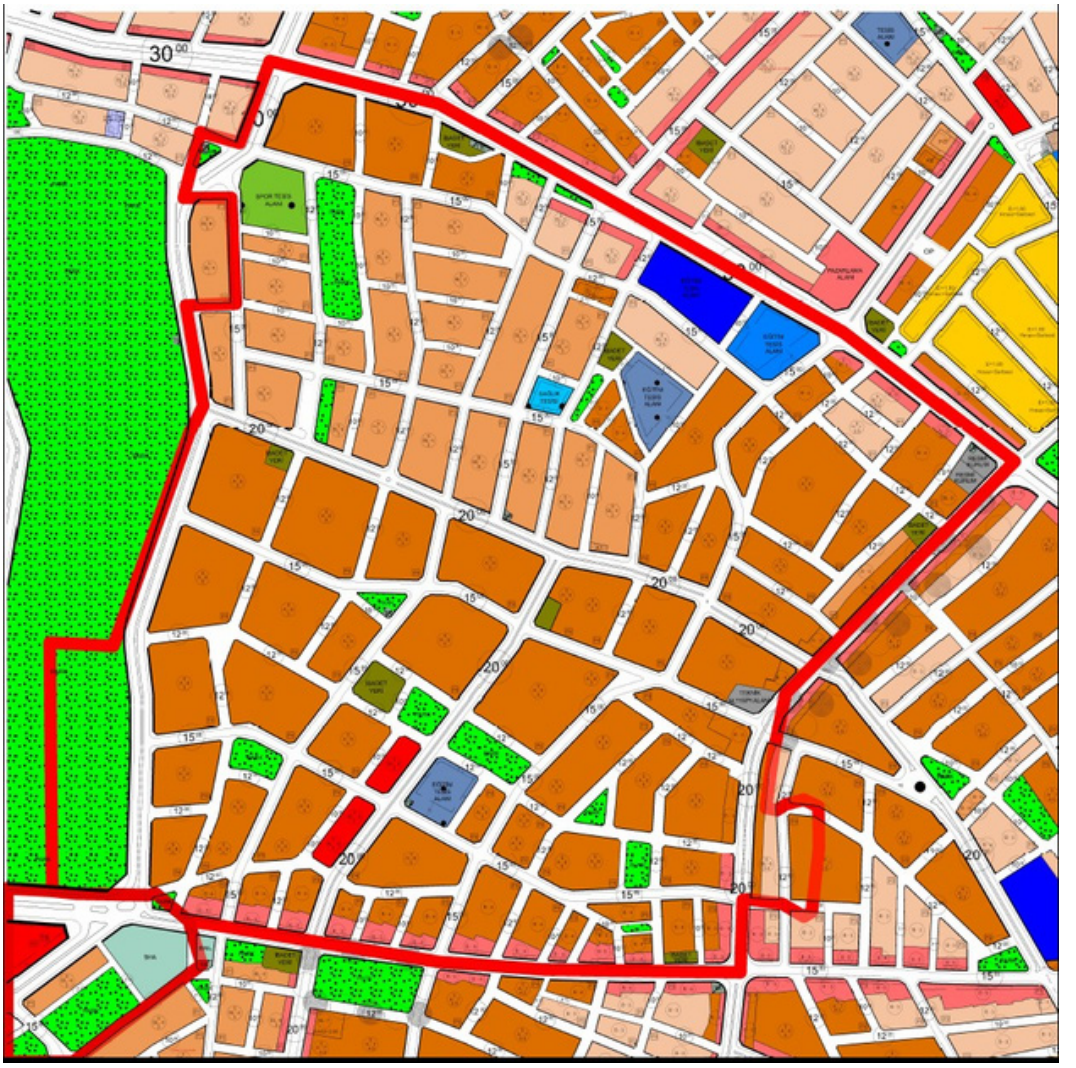
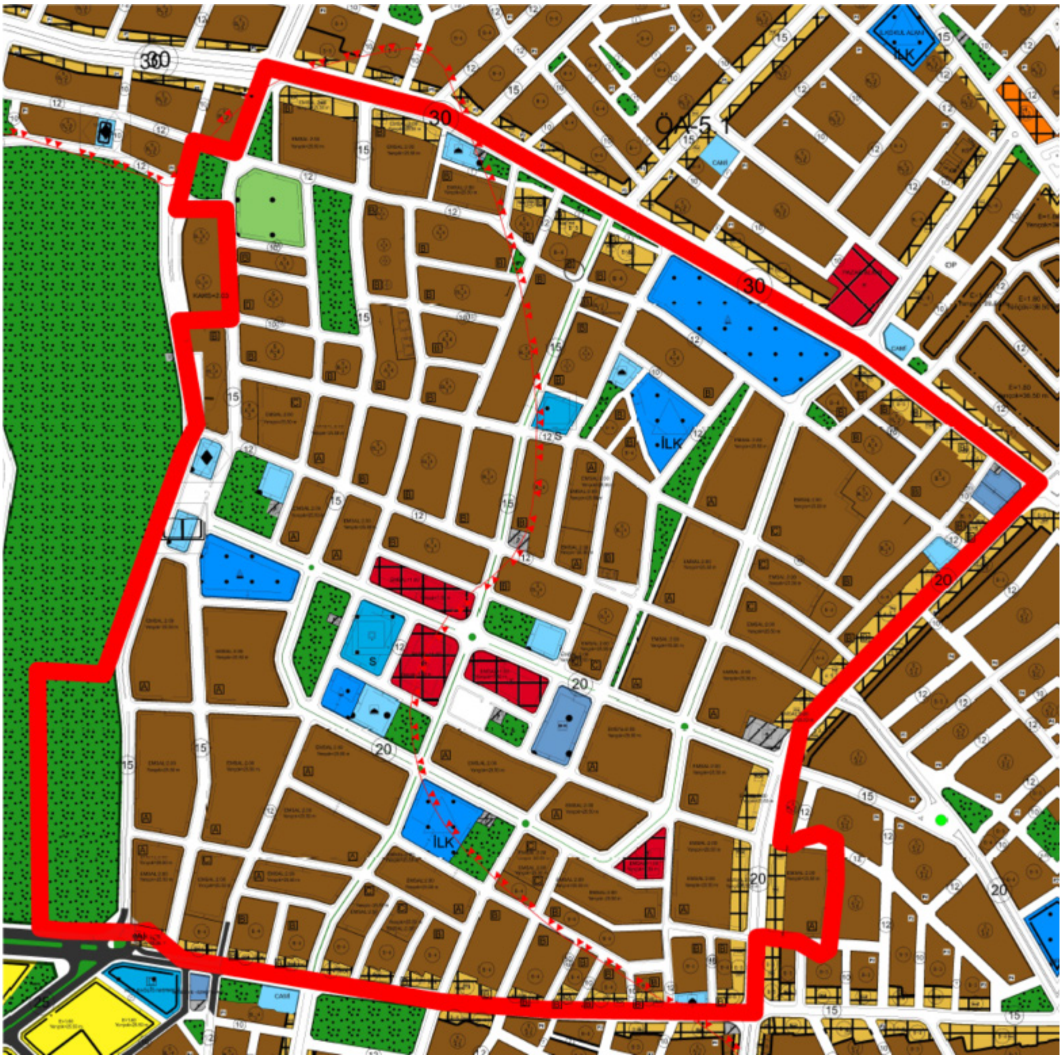


Figure 3. The Esentepe-Yunus Emre neighborhood risk area, 2019 current implementation zoning plan



The plan population of 3,008, calculated according to the 2014 abrogated zoning plan data and construction conditions in the Altuntabak reserve building area, increased by approximately 72%, as compared with the current plan population 5,184 people.

The changes to the zoning plan that was in effect when the area was initially designated as a reserve building area, were intended to facilitate the construction of 1,328 housing units for urban regeneration. In the first phase, the Mass Housing Administration issued a tender for the construction of 480 houses, complete with landscaping, on twenty islands located on publicly owned parcels (Figures 4 and 5).

Figure 4. The Altuntabak neighborhood reserve building area, 2014 abrogated implementation zoning plan

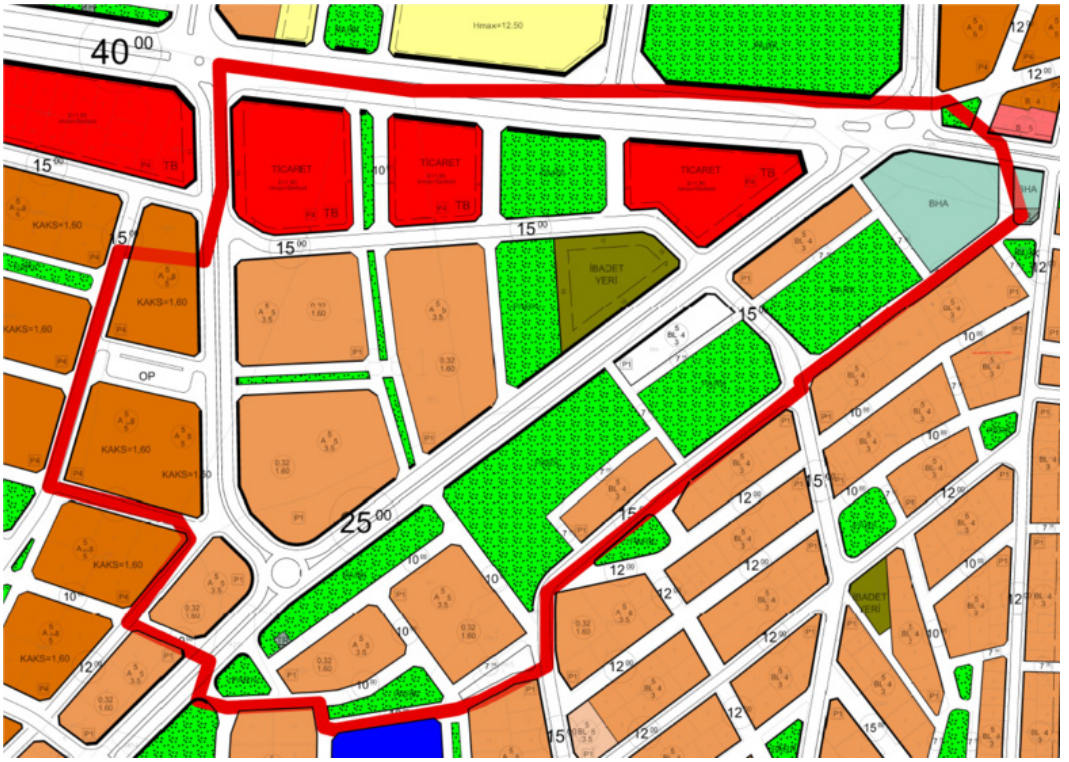


Figure 5. The Altuntabak neighborhood reserve building area, 2019 current implementation zoning plan

Review Regarding Changes in Social and Technical Infrastructure Areas

In the risk area of the Esentepe-Yunus Emre neighborhood, accessibility increased regarding worship areas, kindergartens, primary schools, secondary schools, health and sports facilities, parks, social and cultural facilities, when compared with the abrogated plan. There was a decrease in accessible high schools and roads. In the Altuntabak neighborhood reserve building area, the accessibility of the health facilities and primary schools increased under the current plan, while the mosque, park, and municipality service areas became less accessible (Figures 6 and 7).

Figure 6. Service influence radius of reinforcement areas in the risk and reserve building area: 2014 abrogated implementation zoning plan and 2019 current implementation zoning plan

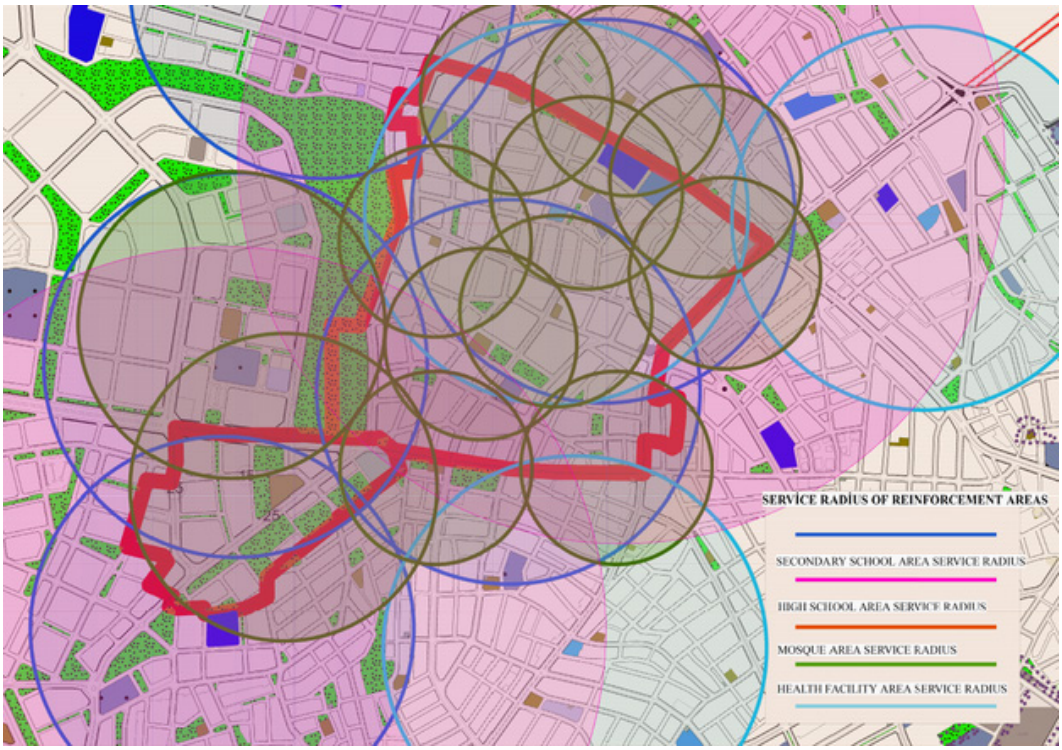
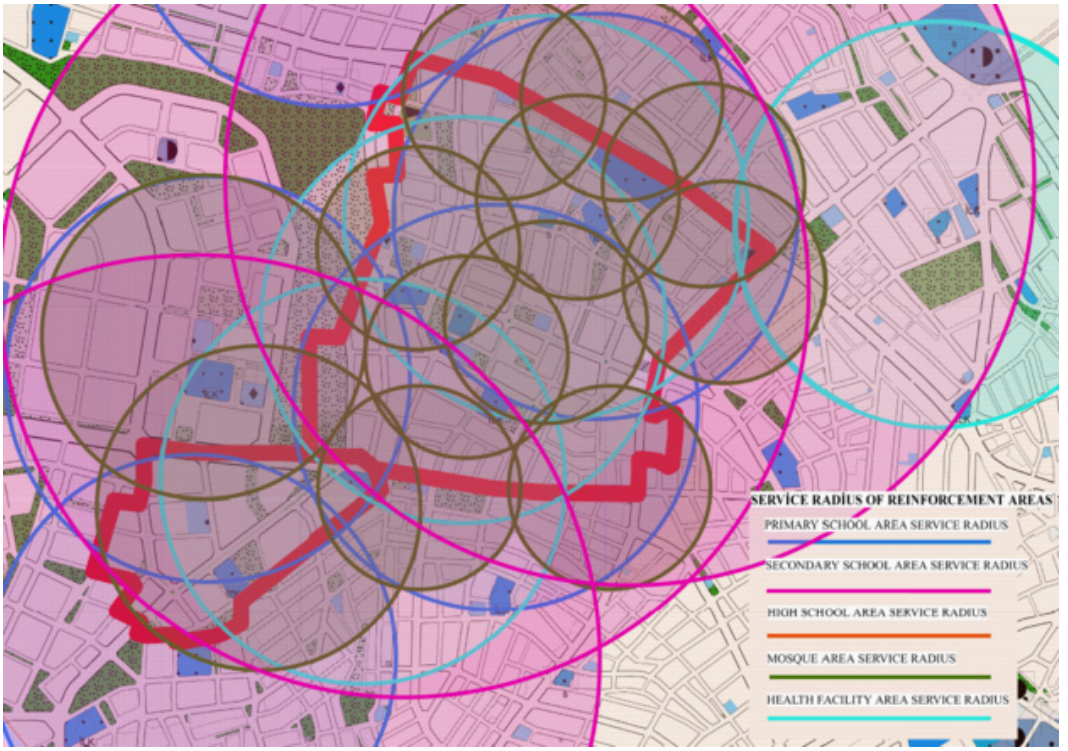


Figure 7. Service radius of reinforcement areas in risk and reserve building areas: 2019 current implementation zoning plan



In the Esentepe-Yunus Emre neighborhood, a total of 82,714 m^2 of social and technical infrastructure area was planned in the former plan's risk area. 2.48 m^2 of social and technical infrastructure area per person was allocated, as compared with the former plan's population of 33,332. The current plan included a total of 109,832 m^2 of social and technical infrastructure area in the risk location; when calculated according to current plan's population of 21,093, 5.20 m^2 per area was allocated per person. Although showing an increase in total social and technical infrastructure areas, the amount was insufficient when considering that these areas should provide 22.45 m^2 per person, and 473,537 m^2 in total, according to annex 2 of the SPCR. For an additional population of 2,554 which was derived by accounting for an otherwise unnoted increase in floor area ratio indicated in the planning notes an additional social and technical infrastructure area of 22.45 m^2 per person, totaling 57,337 m^2, was required (Table 1).

Table 1. Social and technical infrastructure changes in the Esentepe-Yunus Emre neighborhood

Risky Area		Abrogated Plan (2014)		Current Plan (2019)		According to Standards		Current Plan Status According to the Abrogated Plan			Current Plan Status According to Standards		
		33.332 PERSON		21.093 PERSON		21.093 PERSON							
Function Areas		Area	Rating	Area	Rating	Area	Rating	Accessibility	Competence		Accessibility	Competence	
		(M^2)	(M^2/ Person)	(M^2)	(M^2/ Person)	(M^2)	(M^2/ Person)	(Distance)	(M^2/ Person)	Minimum Unit Area (M^2)	(Distance)	(M^2/ Person)	Minimum Unit Area (M^2)
Mosque Area		6.419	0,19	8.490	0,40	15.820	0,75	↑	↑	↑	?	×	×
Educational Facility	Kindergarten	23.240	0,70	1.765	0,08	12.655	0,60	↑	↑	↑	×	×	×
	Primary School			10.232	0,49	42.186	2,00	↑	↑	↑	×	×	ü
	Secondary School			20.495	0,97	42.186	2,00	↑	↑	↑	?	×	ü
	High School			0	0	42.186	2,00	↓	↓	×	?	×	×
Health Facility Area		1.710	0,05	5.836	0,28	33.748	1,60	↑	↑	↑	×	×	×
Sports Facility Area		5.881	0,18	5.938	0,28			↑	↑	↑	Θ	Θ	Θ
Park Area		48.586	1,46	60.161	2,85	213.500	10,00	↑	↑	↑	Θ	×	Θ
Official org. Area		1.877	0,06	1.774	0,08			↓	↑	↓	Θ	Θ	Θ
Social Facility Area		0	0	1.133	0,05	31.639	1,50	↑	↑	↑	Θ	×	Θ
Cultural Facility Area		0	0	1.138	0,05			↑	↑	↑	Θ	×	Θ
Municipality Service Area		0	0	3.605	0,17			↑	↑	↑	Θ	Θ	Θ
General Car Parking Area		0	0	3.316	0,16			↑	↑	↑	Θ	Θ	Θ
Technical Infrastructure Area (Transformer etc.)		2.759	0,08	2.853	0,14	42.186	2,00	↑	↑	↑	Θ	×	Θ
Refuge Area		1.412	0,04	6.362	0,30			↑	↑	↑	Θ	Θ	Θ
Roads Area		247.091	7,41	228,104	10,81			↓	↑	↓	Θ	Θ	Θ
Total Area		776.005	100	776.005	100			-	-	-	-	-	-

INCREASING ↑ UNCHANGED - NOT MEETING STANDARDS ×
DECREASING ↓ MEETING STANDARDS ü NON-STANDARDISED Θ

A total of 43,022 m^2 of social and technical infrastructure area was planned in the abrogated plan for the reserve building area of Altuntabak; when compared with the abrogated plan's population of 3,008, an area of 14.30 m^2 per person was allocated. A total of 30,924 m^2 of social and technical infrastructure area for the reserve building area was included in the current plan; when compared to the current plan's population of 5,184, 5.84 m^2 of area per person was allocated. This amounted to a decrease in social and technical infrastructure areas in the reserve building location. According to the standards outlined in annex 2 of the SPCR, the total area designated for social and technical infrastructure should have been 116,380 m^2, based on an allocation of 22.45 m^2 per person.

Review of Changes Regarding Transport

The former plan for the Esentepe-Yunus Emre neighborhood's risk area designated a total of 247.091 m^2, with 7.41 m^2 per capita. This was in proportion to the population of 33,332. In the current plan, roads were reduced to 239,254 m^2 in total, with 11.34 m^2 per capita for 21,093 people (Table 1). Compared to the abrogated plan, the total road area in the current plan decreased, while its population ratio increased. Road areas increased in proportion to the population, however, this should be carefully monitored, due to an increase in commercial use that could potentially cause access problems.

In the abrogated plan, the Altuntabak neighborhood reserve building area had a total of 70.966 m^2 of planned roads, with 23.59 m^2 per capita for a population of 3,008 people. The current plan had a total of 66,947 m^2 of planned roads, allowing 12.91 m^2 per capita for 5,184 people—the population of the current plan (Table 2). Compared to the abrogated plan, the total road area decreased, while the population in the current plan increased.

Table 2. Social and technical infrastructure changes in the Altuntabak neighborhood

Reserve Building Area	Abrogated Plan (2014)		Current Plan (2019)		According to Standards		Current Plan Status According to the Abrogated Plan			Current Plan Status According to Standards		
	3.008 person		5.194 person		5.194 person		Accessibility	Competence		Accessibility	Competence	
Function Areas	Area (M^2)	Rate (M^2/ Person)	Area (M^2)	Rate (M^2/ Person)	Area (M^2)	Rate (M^2/ Person)	(Distance)	(M^2/ Person)	Minimum Unit Area (M^2)	(Distance)	(M^2/ Person)	Minimum Unit Area (M^2)
Health Facility Area	0	0	3.392	0.65	8.294	1,60	↑	↑	↑	×	×	?
Primary School Area	0	0	5.000	1.02	10.368	2,00	↑	↑	↑	?	×	?
Refuge Area	7.054	2,34	5.307	1.02			↓	↓	↓	Θ	Θ	Θ
Mosque Area	5.140	1,70	4.374	0.84	3.888	0,75	↓	↓	↓	?	?	?
Park Area	37.882	12,59	17.667	3.40	51.840	10,00	↓	↓	↓	Θ	×	Θ
Municipal Service Area	5.877	1,95	0	0			↓	↓	↓	Θ	Θ	Θ
Technical Infrastructure Area (Transformer)	0	0	491	0.09	10.368	2,00	↑	↑	↑	Θ	×	Θ
Road Area	70.966	23,59	66.947	12.91			↓	↓	↓	Θ	Θ	Θ
Total Area	207.181		207.181				-	-	-	-	-	-

INCREASING ↑ UNCHANGED - NOT MEETING STANDARDS ×
DECREASING ↓ MEETING STANDARDS ü NON-STANDARDISED Θ

In the former plan for the Esentepe-Yunus Emre neighborhood's risk area, the basic transportation design allowed for 30- and 20-meter-wide first-degree roads surrounding the area. The zoning plan documented islands of mostly eight stories, but also four and five stories of zoned islands; the circulation between these islands was provided by grade two roads with widths of 15 and 12 meters respectively, in proportion to the floor heights. The secondary roads in the area were 10- to 12-meters-wide and were discontinuous, with interruptions that affected their connectivity. No transportation routes were designed to separate vehicle and pedestrian traffic and ensure continuous flow.

In the abrogated plan, the Altuntabak neighborhood reserve building area had first-degree roads, 40-meters- and 25-meters-wide, surrounding the area. The 15-meter, second-degree road passing through the middle of the area was designated as the main road feeding this location. There were 12-, 10-, and 7-meter-wide vehicle and pedestrian roads within the area. The story height of building in the trading zone was regulated as *h:free*—access was no problem, since these islands front the 40-meter-wide first-degree road. Intersections were created at junction points of the first-degree roads, but analyses have not yet been made regarding the second- and third-degree roads. Additionally, the roads were not designed to connect at multiple points. There are currently no regulations for alternative means of transport, such as tramways, scooters, or bicycles—nor was there an integrated traffic management system in place. There were no continuous pedestrian pathways to ensure easy access to reinforcement areas. Regulations, such as those involving stopping points for vehicles and car parks, were not included. Regional and general car parking areas have not been created within the area (Figures 8 and 9).

Figure 8. Risk and reserve building areas: 2014 abrogated zoning plan reinforcement areas and transport diagram

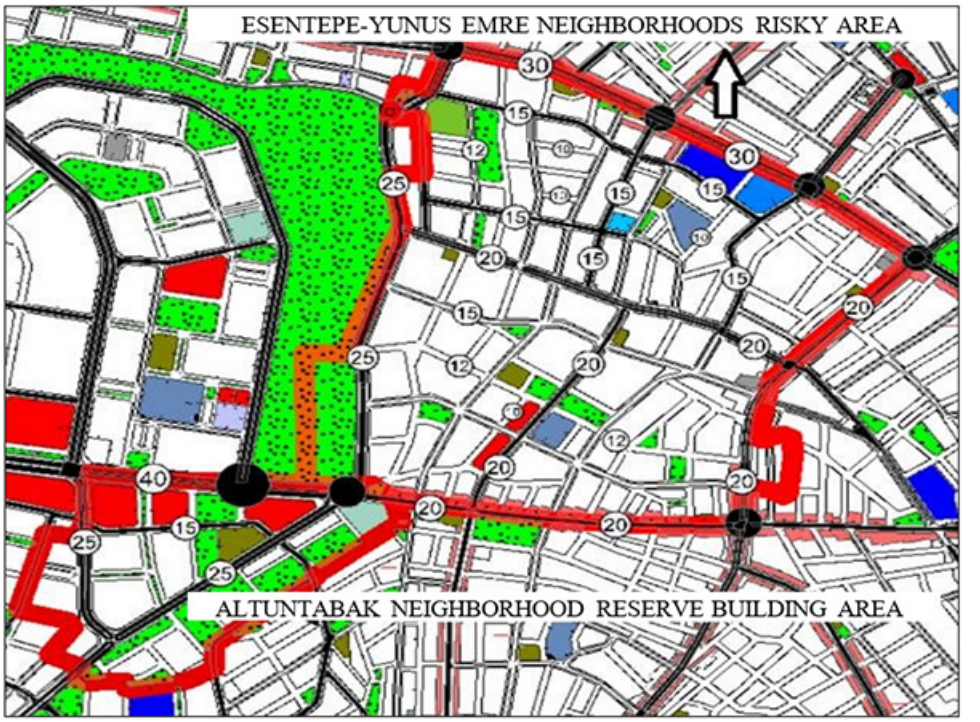
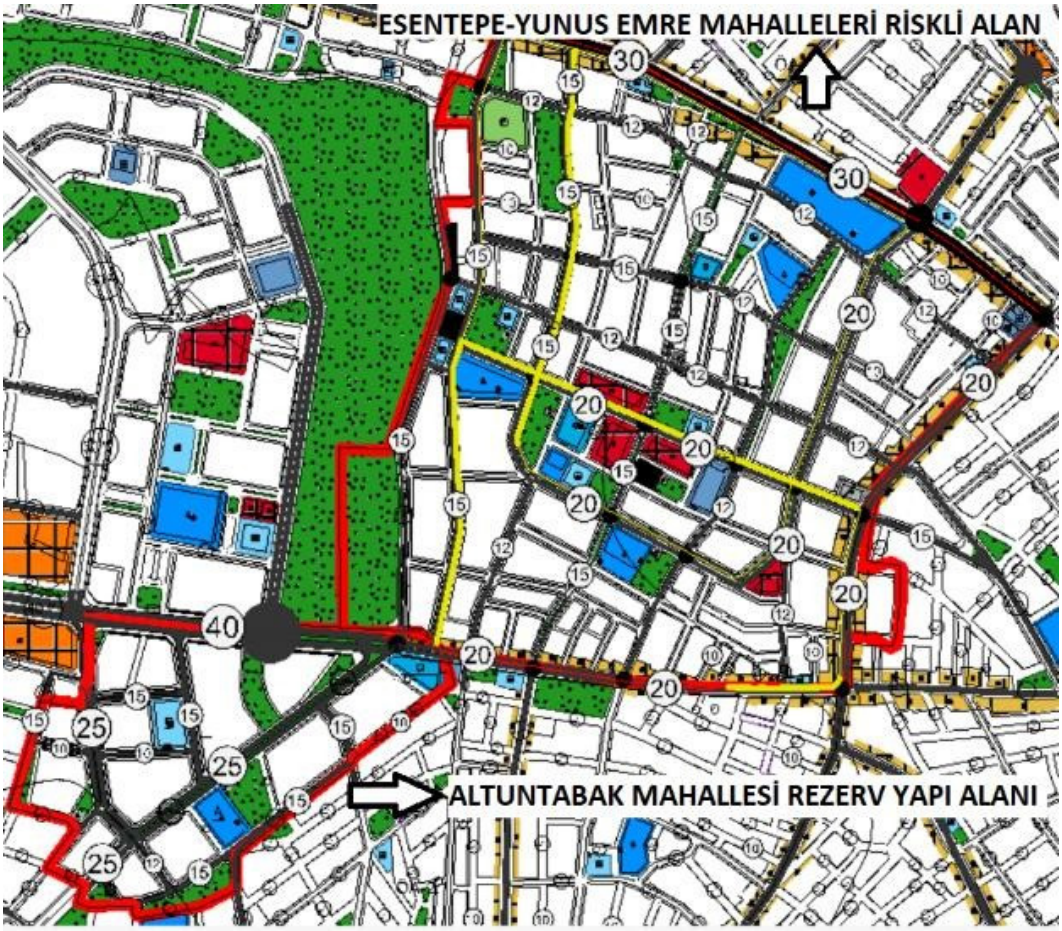


Figure 9. Risk and reserve building areas: 2019 zoning plan reinforcement areas and transport diagram



In the current plan of the Esentepe-Yunus Emre neighborhood risk area, the 30- and 20-meter-wide first-degree road surrounding the area was preserved, as per the abrogated plan. The road forming the western border of the area was planned as a 15-meter, second-degree carriageway. In the center of the area, a 20-meter, second-degree carriageway was constructed, surrounding the sub-center that consists of commercial and reinforcement areas. The 15-, 12- and 10-meter carriageways that provide access to the reinforcement areas and residential areas were arranged in such a way as to ensure continuity. Intersections were created at junctions of the first-degree roads, while no specific plans for intersections were made on the second- and third-degree roads. The roads, however, were designed to interconnect.

There was not much difference between the abrogated plan and the current plan. There were 40 meters of first-degree roads in the north and 25 meters in the south and west, surrounding the reserve building area. Additionally, there were 15 meters of second-degree and 15 and 10 meters of third-degree roads within the area. General parking areas remained unplanned within the reserve building area in both the abrogated and current plans. There were no regulations for alternative means of transportation and integrated traffic management systems in the current plan. Bicycle paths, approximately 5 kilometers in total, were designed to run along a determined axis. Pedestrian pathways that ensure continuous movement and provide access to facilities were not

included—neither were car parks nor standing areas for vehicles providing urban transportation. Three general car parking areas were planned, to serve commercial and reinforcement areas in the center of the planning zone (Figures 8 and 9).

In summary, although the population in the current plan had increased when compared with the former plan, the total area of roads—along with its ratio to the population—was reduced.

The transport plan was improved in terms of grading and continuity, as compared with the previous plan; however, road widths were not adjusted in areas where story heights had increased. In the current plan's transport design, islands were merged, intermediate roads removed, and larger islands created. Consequently, accessibility in the area decreased. Additionally, no transportation routes were planned to separate vehicle and pedestrian traffic, or to maintain continuous transportation flow.

Review of Functional Changes

In the Esentepe-Yunus Emre neighborhood risk area, the 2019 plan was compared with the 2014 abrogated plan. It was found that functional areas increased as follows:

- Mosque area: 0.26%
- Kindergarten, primary school, and secondary school areas combined: 1.2%
- Trade area: 1.19%
- Health facility area: 0.53%
- Sports facility area: 0.01%
- Park area: 1.49%
- Social and cultural facility area: 0.15%
- Municipal service area: 0.46%
- General parking area: 0.43%
- Technical infrastructure (transformer) area: 0.01%

The high school section was completely removed. In the risk area, under the 2019 plan, approximately 5.4% of the former housing areas in the abrogated plan was converted into commercial uses and mixed-use commercial-residential areas. While housing areas were largely regulated in the abrogated plan, in the 2019 plan there was a sub-center, where a commercial zone and social facilities were concentrated in the location's center. At the location's periphery, the ratio of housing to commercial areas increased, thereby heightening the prominence of commercial activities in the current plan. Meanwhile, the size of the areas allocated for educational facilities also grew, except for the high school (Table 3).

Table 3. Comparison of the function areas of the abrogated and current plans of the Esentepe-Yunus Emre neighborhood

Risky Area		Abrogated Plan (2014)		Current Plan (2019)		Current Plan Status According to the Abrogated Plan
Function Areas		Area (M^2)	Ratio (%)	Area (M^2)	Ratio (%)	
Mosque Area		6.419	0,83	8.490	1,09	↑
Education Facility	Kindergarten Area	23.240	2,99	1.765	0,23	↑
	Primary School Area			10.232	1,32	↑
	Secondary School Area			20.495	2,64	↑
	High School Area			0	0	↓
Housing Area		414.493	53,41	370.103	47,69	↓

continued on following page

Table 3. Continued

Risky Area	Abrogated Plan (2014)		Current Plan (2019)		Current Plan Status According to the Abrogated Plan
Function Areas	Area (M^2)	Ratio (%)	Area (M^2)	Ratio (%)	
Housing +Trade Areas	17.605	2,27	30.463	3,93	↑
Trade Area	4.932	0,64	14.237	1,83	↑
Health Facility Area	1.710	0,22	5.836	0,75	↑
Sports Facility Area	5.881	0,76	5.938	0,77	↑
Park Area	48.586	6,26	60.161	7,75	↑
Official Institution Area	1.877	0,24	1.774	0,23	↓
Social Facility Area	0	0	1.133	0,15	↑
Cultural Facility Area	0	0	1.138	0,15	↑
Municipality Service Area	0	0	3.605	0,46	↑
General Car Parking Area	0	0	3.316	0,43	↑
Technical Infrastructure Area (Transformer etc.)	2.759	0,36	2.853	0,37	↑
Refuge Area	1.412	0,18	6.362	0,82	↑
Roads Area	247.091	31,84	228.104	29,39	↓
Total Area	776.005	100	776.005	100	

Regarding the 2019 plan, as compared with the 2014 abrogated plan in the Altuntabak neighborhood reserve building area, the housing area increased by 24.96%. Additionally, health facilities increased by 1.64%, the primary school area by 2.41%, and technical infrastructure by 0.24%. The refuge area expanded by 0.84%, the mosque area by 0.37%. Parks rose by 9.76% and the road area by 1.94%. Reductions included 0.37% for the mosque area, 9.76% for parks and 1.94% for roads, while sections designed for commercial use and municipal service were completely removed. In the reserve building area, housing areas doubled under the current plan and whole commercial areas were completely removed. While areas connected to retail, housing and parks were dominant in the abrogated plan, the current plan was primarily residential, designed to meet the housing needs of the designated risk area. In the reserve building area, on the other hand, there was no sectoral function, as shown in Table 4.

Table 4. Comparison of the Altuntabak neighborhood reserve building area: Abrogated and current plan function areas

Reserve Building Area	Abrogated Plan (2014)		Current Plan (2019)		Current Plan Status According to the Abrogated Plan
Function Areas	Area (M^2)	Ratio (%)	Area (M^2)	Ratio (%)	
Housing Area	59.312	28,63	111.030	53,59	↑
Trade Area	20.950	10,11	0	0	↓
Health Facility Area	0	0	3.392	1,64	↑
Primary School Area	0	0	5.000	2,41	↑

continued on following page

Table 4. Continued

Reserve Building Area	Abrogated Plan (2014)		Current Plan (2019)		Current Plan Status According to the Abrogated Plan
Function Areas	Area (M^2)	Ratio (%)	Area (M^2)	Ratio (%)	
Refuge Area	7.054	3,40	5.307	2,56	↓
Mosque Area	5.140	2,48	4.374	2,11	↓
Park Area	37.882	18,28	17.667	8,52	↓
Municipality Service Area	5.877	1,95	0	0	↓
Technical Infrastructure Area (Transformer etc.)	0	0	491	0,24	↑
Road Area	70.966	34,25	66.947	32,31	↓
Total Area	207.181	100	207.181	100	

DISCUSSION

Urban regeneration assists with addressing decaying parts of the city in ways that cannot be solved with existing implementation tools; powers granted by urban regeneration laws will accelerate this process. Law 6306, on the urban regeneration of areas determined as disaster risks, was enacted to overcome this problem, thus shifting power from the central government. Under this law, privileges such as credit support, tax exemption from taxes and fee waivers were granted for the renovation of buildings in at-risk areas. This law helps both local governments and property owners who face limitations central government support can help expedite procedures, enabling urban regeneration projects to be completed more quickly.

As a result of the field research, it was determined that many changes and revisions had been made to the plans in the sample urban regeneration areas. Building density was reduced by 11%, population density was reduced by 37%, while 90% of the social and technical infrastructure areas were increased, in terms of per capita area—up to 90% of minimum unit area and 83% accessibility[2]. According to regulation standards, however, 67% of the minimum unit area standards were inadequate, 100% of them were inadequate in terms of per capita reinforcement area, and 50% of the reinforcements did not meet the accessibility criteria. In the transportation design, the total road area was reduced by 3%, while road grading, diversity, widths, intersection and car parking arrangements were improved, but remained insufficient (Table 5).

Table 5. Esentepe-Yunus Emre neighborhood risk area urban regeneration process

Esentepe-Yunus Emre Neighbourhoods Risky Area				
Main Topics	**Subtitles**	**Abrogated Plan (2014)**	**Current Plan (2019)**	**Current Plan According to Standards**
Urban Transformation Law		No	Law No. 6306	
Organisation Approving the Plan		Sivas Municipality	Ministry	
Changes Affecting Intensity	Building Density	Decreased By 11%		Θ
	Population Density	Decreased By 37%		Θ

continued on following page

Table 5. Continued

Esentepe-Yunus Emre Neighbourhoods Risky Area					
Main Topics	**Subtitles**		**Abrogated Plan (2014)**	**Current Plan (2019)**	**Current Plan According to Standards**
Social and Technical Infrastructure Areas	Competence	Minimum Unit Area (M^2)	Increased By 90%		In Terms of Social and Technical Infrastructure Areas
		Area Per Person (M^2/Person)	Increased By 90%		100% is Insufficient
	Accessibility		Increased By 83%		50% is Insufficient
Changes Related to Transport	Road Area		Decreased By 3%		Θ
	Other Solutions		Transport Gradient, Diversity, Junction, Parking Solutions etc. Improved		
Urban Regeneration Implementation Method	Urban Spatial Clearance, Reconstruction, Sanitation- Rehabilitation				
Actors	Ministry of Environment, Urbanisation and Climate Change, Sivas Municipality, Beneficiaries				

In the Altuntabak neighborhood reserve building area, when compared with the abrogated plan, building density had increased by 85%, population density by 73%, and social and technical areas by 40%. However, 90% of these changes still failed to meet the minimum standards set by the Spatial Plans Construction Regulation.

The minimum unit areas of reinforcements increased by 67%, and 100% of the reinforcements in the 2019 plan were found to have met minimum standards. In the current plan, the accessibility of equipment areas increased by 60%, however 50% of them remain insufficient according to the standards (Table 6). Transportation grading, diversity, road widths, intersection and car parking arrangements were deemed insufficient, as compared with the former plan and regulations.

Table 6. The Altuntabak neighborhood reserve building area urban regeneration process

Altuntabak Neighbourhood Reserve Construction Area					
Main Topics	**Subtitles**		**Abrogated Plan (2014)**	**Current Plan (2019)**	**Current Plan According to Standards**
Urban Transformation Law			Law NO. 6306		
Organisation Approving the Plan			Sivas Municipality	Ministry	
Changes Affecting Intensity	Building Density		Increased by 85%		Θ
	Population Density		Increased by 73%		Θ
Social and Technical Infrastructure Areas	Competence	Minimum Unit Area (M^2)	Increased by 67%		100% Sufficient
		Area Per Person (M^2/ Person)	Increased by %40		90% Insufficient
	Accessibility		Increased by %60		50% Insufficient
Changes Related to Transport	Road Area		Decreased by6%		Θ
	Other Solutions		Transport Gradient, Junction, Parking Solutions etc. Deteriorated.		
Urban Regeneration Implementation Method	Revitalisation, Spatial Clearance, Reconstruction				
Actors	Ministry of Environment, Urbanisation and Climate Change, Toki, Sivas Municipality, Beneficiaries				

CONCLUSION

The urban regeneration areas in the Esentepe-Yunus Emre and Altuntabak neighborhoods were planned in a manner disconnected from the broader, thematic decisions contained in the city's major plan. The individual plans and planning note regulations for these areas were not only separated from each other, but were isolated from the integrated city-wide plan. This fragmented approach risks triggering further plan revisions in response to immediate local changes. Moreover, because the planning decisions in these regeneration areas do not fulfill the minimum standards specified in current regulations, there is a risk of a decreasing quality of urban life—meaning that additional, future interventions will be necessary. This may undermine the sustainability of current practices.

In the current zoning plans of the Esentepe-Yunus Emre neighborhood, a 20% increase in floor area ratio can be implemented under certain conditions, as specified in the planning notes. Even without this potential increase, however, the social and technical infrastructure ratios required for the planned population remain largely unmet. Consequently, any additional population growth resulting from these ratio increases, beyond the originally planned figures, will strain social and physical infrastructure given the lack of measures to balance social reinforcements.

When preparing urban regeneration plans, it is essential to conduct meticulous analyses that address physical, spatial, social, and economic factors, as well as factoring in planning, design, legal, and administrative dimensions (Healey, 1997; Innes & Booher, 2010; Roberts & Sykes, 2000). In the areas included in this study, the decoupling of plan decisions from the city's main strategies was found to not only have led to physical and infrastructural problems, but also to socio-economic challenges.

Similar issues can be observed in other disaster-prone regions around the world. Post-earthquake regeneration in Japan, such as in the Tohoku Region after 2011, or post-hurricane revitalization in the United States, such as in the state of New Orleans after Hurricane Katrina, demonstrates how socio-economic considerations and stakeholder engagement are crucial in shaping outcomes (Albrechts, 2004; Tasan-Kok & Baeten, 2012). These global examples parallel the findings of this study: that fragmented plans and top-down decision-making can lead to inequitable results. By contrast, successful cases of urban regeneration demonstrate that such projects should be part of a broader strategic framework, balancing physical reconstruction with social and economic resilience (Wilkinson, 2012). This conclusion echoes resilience theory, which suggests that multi-scalar governance structures can buffer communities against future risks (Tasan-Kok & Baeten, 2012).

In line with international disaster risk reduction approaches, such as the Sendai framework for disaster risk reduction (2015–2030), the findings of this research emphasize the importance of integrated and risk-informed urban planning. Policymakers and local authorities can utilize global frameworks alongside national regulations such as law 6306 to ensure that local urban regeneration objectives are consistent with the four priority areas of the Sendai framework, namely, understanding disaster risk, strengthening disaster risk governance, investing in disaster risk reduction for resilience, and enhancing disaster preparedness for effective response. Moreover, relevant actors should institutionalize multi-level coordination by connecting municipal development plans, hazard mitigation strategies, and urban regeneration initiatives, thereby creating coherence between local measures and broader national or international policy objectives (Healey, 1997).

Policy recommendations for practical applicability derive from these considerations. First, an integrated master planning approach is required. Planning decisions for transformation areas should not be isolated from wider urban strategies, and the creation of an urban regeneration master plan should guide both strategic and spatial decisions across the city. This plan must remain adaptable, drawing on robust data and risk analyses, and be regularly updated to reflect evolving conditions. Policymakers could embed such a plan into existing national disaster management frameworks, ensuring consistency with the Sendai framework's objectives and local hazard mitigation strategies (Wilkinson, 2012).

Second, prioritizing and phasing interventions is vital. Comprehensive assessments, including risk analyses, socio-economic studies, and infrastructure audits, should identify problematic areas in the city. Once these areas are determined, neighborhoods needing urgent transformation must be prioritized and tackled in phases to ensure the effective allocation of resources. By aligning phased interventions with multi-year funding and capacity-building programs, local authorities can reinforce the practical utility of these plans (Albrechts, 2004).

Finally, multi-stakeholder collaboration and monitoring enhance transparency and accountability is essential. An inclusive governance framework that brings together municipalities, civil society organizations, academic experts, and community representatives can strengthen oversight and mutual trust (Healey, 1997). Consistent monitoring and impact assessments encompassing social, economic, and environmental dimensions enable the dynamic revision of plans, addressing emerging problems before they escalate. Employing standardized metrics helps local authorities report on progress in harmony with national development goals and global frameworks, such as the Sendai framework (Innes & Booher, 2010).

By implementing these recommendations and situating them within a diverse theoretical foundation that draws on collaborative planning (Healey, 1997; Innes & Booher, 2010), resilience theory (Wilkinson, 2012), and equity planning (Davidoff, 1965; Fainstein, 2010), urban regeneration can transition from a fragmented, profit-driven approach to a holistic, resilience-focused model. This entails balancing physical reconstruction with socio-economic resilience, ensuring that short-term gains do not compromise long-term urban integrity or social equity. Integrating lessons from other disaster-prone regions, while strengthening policy frameworks and institutional coordination, will enhance the legitimacy and sustainability of regeneration efforts in Türkiye.

In future research, expanding the scope to include additional case areas both within Türkiye and internationally would enable cross-comparative analyses of how disaster-driven planning interventions operate under diverse regulatory and cultural settings. Furthermore, longitudinal studies examining the long-term effects of these plan revisions on urban density, infrastructure adequacy, and social equity could clarify the sustainability of current approaches. Such investigations could help policymakers refine strategies to bolster resilience and inclusivity in urban regeneration efforts, ultimately contributing to more robust theoretical and practical foundations for disaster-driven planning.

COMPETING INTERESTS

The authors of this publication declare there are no competing interests.

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REFERENCES

Akbulut Başar, A. (2025). Afete dirençli kentler için kentsel yönetişimin önemi: Türkiye'deki yasal mevzuatın Sendai çerçevesine göre değerlendirilmesi. *Social Mentality and Researcher Thinkers Journal (Smart Journal), 11*(1), 100–108. DOI: 10.5281/zenodo.14751538

Albrechts, L. (2004). Strategic (spatial) planning reexamined. *Environment and Planning. B, Planning & Design*, *31*(5), 743–758. DOI: 10.1068/b3065

Aldemir, Ş., & Doğan, M. (2015). Kentsel dönüşüm mevzuatı. In Duman, B., & Coşkun, İ. (Eds.), *Neden nasıl ve kim için kentsel dönüşüm* (pp. 497–523). Litera Yayıncılık.

Alfasi, N. (2006). Planning policy? Between long-term planning and zoning amendments in the Israeli planning system. *Environment & Planning A*, *38*(3), 553–568. DOI: 10.1068/a37335

Balaban, O. (2012). The negative effects of construction boom on urban planning and environment in Turkey: Unraveling the role of the public sector. *Habitat International*, *36*(1), 26–35. DOI: 10.1016/j.habitatint.2011.05.003

Bektaş, Y. (2022). Kentsel dayanıklılık ve kentsel dönüşüm ilişkisinin kentsel yoğunluk ve sosyal altyapı değeri üzerinden değerlendirilmesi: Kayseri örneği. *Megaron*, *17*(1), 117–135. DOI: 10.14744/megaron.2022.40121

Booth, P. (2003). *Planning by consent: The origins and nature of British development control*. Routledge., DOI: 10.4324/9780203402153

Bozkurt, Ö., & Çiçekdağı, H. İ. (2022). İl afet risk azaltma planları (İRAP) sonrasi yapılacak risk azaltma yatırımlarında best-worst metodu (BWM) ile kriter önceliklendirme. *Afet Ve Risk Dergisi*, *5*(1), 109–121. DOI: 10.35341/afet.1060488

Buitelaar, E., Galle, M., & Sorel, N. (2011). Plan-led planning systems in development-led practices: An empirical analysis into the (lack of) institutionalisation of planning law. *Environment & Planning A*, *43*(4), 928–941. DOI: 10.1068/a43400

Büyükcivelek, İ. A., & Varol, Ç. (2021). Mekânsal plan değişikliklerinin kentsel yaşam kalitesi üzerine etkisi: Ankara çankaya örneği. *İdealkent Dergisi, 32*(12), 327–354. DOI: 10.31198/idealkent.841456

Carmona, M., Carmona, S., & Gallant, N. (2003). *Delivering new homes: Processes, planners and providers*. Routledge.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE Publications.

Davidoff, P. (1965). Advocacy and pluralism in planning. *Journal of the American Institute of Planners*, *31*(4), 331–338. DOI: 10.1080/01944366508978187

Ersoy, M. (1997). İmar planı değişiklikleri ve yargı denetimi. *ODTÜ Mimarlık Fakültesi Dergisi*, *17*(1–2), 53–73.

Ersoy, M. (2000). *Mekân planlama ve yargı denetimi* [Spatial Planning and Judicial Review]. Yargı Yayınevi.

Fainstein, S. S. (2010). *The just city*. Cornell University Press.

Gerdan, S. (2021). Kentsel planlama açısından il afet risk azaltma planlarının değerlendirilmesi. *Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi*, *10*(4), 1006–1012. DOI: 10.37989/gumussagbil.930086

Gülümser, A. A., Öztürk, N. K., Akay, M., Belli, B. (2023). Ülke planlamada kentsel dönüşümün yeri: Türkiye mekânsal strateji planı örneği. *Çevre Şehir ve İklim Dergisi, 2*(4), 1–19.

Güzeldağ, F. (2019). *Kentsel dönüşüm projelerinin yaşam kalitesi bağlamında değerlendirilmesi: Bursa Soğanlı Projesi* Evaluation of urban regeneration projects in the context of quality of life:The Bursa Soğanlı Project (Master's thesis, Yıldız Technical University). YÖK National Thesis Center. https://tez.yok.gov.tr/UlusalTezMerkezi/

Healey, P. (1997). *Collaborative planning: Shaping places in fragmented societies*. Macmillan International Higher Education. DOI: 10.1007/978-1-349-25538-2

İnceyol, Y. (2021). Uygulama imar planı tadilatlarında plan değişikliği ölçütlerine uygunluğun araştırılması. *Güfbed/Gustij, 11*(4), 1324–1339. DOI: 10.17714/gumusfenbil.936577

Innes, J. E., & Booher, D. E. (2010). *Planning with complexity: An introduction to collaborative rationality for public policy*. Routledge. DOI: 10.4324/9780203864302

Kılınç, N. (2021). *İmar planı değişikliklerinin yasal, mekânsal ve kentsel rant perspektifinden incelenmesi: İstanbul örneği* Examination of zoning plan changes from a legal, spatial and urban rent perspective: The case of Istanbul (Doctoral dissertation, Istanbul Technical University). YÖK National Thesis Center. https://tez.yok.gov.tr/UlusalTezMerkezi/

Kılınç, N., & Türk, Ş. Ş. (2021). Plan changes in Istanbul (Türkiye) as project-led practices in a plan-led planning system. *European Planning Studies*, *29*(8), 1393–1418. DOI: 10.1080/09654313.2020.1865276

Kurada, B., Tanrıverdi, E., Şen, M. F., Demirkol Kılıç, E., & Yalçın, D. (2023). Türkiye Afet Risklerinin Azaltılması Platformuna Genel Bakış. *Ankara Üniversitesi Çevrebilimleri Dergisi*, *10*(1), 24–29.

Needham, B. (2007). *Planning, law and economics: The rules we make for using land*. Routledge., DOI: 10.4324/9780203639658

Özden, P. P. (2010). Türkiye'deki kentsel dönüşüm politikaları ve uygulamalarına eleştirel bir bakış. In Özdemir, D. (Ed.), *Kentsel dönüşümde politika, mevzuat, uygulama/Avrupa deneyimi İstanbul uygulamaları* (pp. 194–224). Nobel Akademik Yayıncılık.

Rivolin, U. J. (2008). Conforming and performing planning systems in Europe: An unbearable cohabitation. *Planning Practice and Research*, *23*(2), 167–186. DOI: 10.1080/02697450802327081

Roberts, P., & Sykes, H. (2000). The evolution, definition and purpose of urban regeneration. In Roberts, P., & Sykes, H. (Eds.), *Urban regeneration: A handbook*. Sage Publications.

Sesli, F. A., & Karadavut, E. (2009). *İmar Planı Değişikliklerinin Plan Bütünlüğüne Etkilerinin İncelenmesi*. TMMOB Harita ve Kadastro Mühendisleri Odası, Coğrafi Bilgi Sistemleri Kongresi.

Sivas Belediyesi. (2019). *Esentepe-Yunus Emre Mahalleleri Uygulama İmar Planı Revizyonu: Plan Açıklama Raporu* [Esentepe-Yunus Emre Neighborhoods Implementation Zoning Plan Revision: Plan Explanation Report]. Sivas Belediyesi.

Sivas Belediyesi. (2022). *Kentsel Dönüşüm Müdürlüğü Raporu* [Urban Transformation Directorate Report]. Sivas Belediyesi.

Steele, W., & Ruming, K. J. (2012). Flexibility versus certainty: Unsettling the land use planning shibboleth in Australia. *Planning Practice and Research*, *27*(2), 155–176. DOI: 10.1080/02697459.2012.662670

Tarakçı, S., & Türk, Ş. Ş. (2013). *Kentsel yenilemede yasal çerçevenin rolü: Bağcılar/Göztepe Mahallesi kentsel yenileme alanı örneği. In 4*. Kentsel ve Bölgesel Araştırmalar Sempozyumu Bildiriler Kitabı. [Kentsel ve Bölgesel Araştırmalar Ağı]

Tasan-Kok, T., & Baeten, G. (Eds.). (2012). *Contradictions of neoliberal planning: Cities, policies, and politics*. Springer., DOI: 10.1007/978-90-481-8924-3

T.C. Resmî Gazete [Turkish Official Gazette]. (2014, Jun 14). *Mekânsal Planlar Yapım Yönetmeliği [Spatial Plans Construction Regulation]* (Issue No. 29030). [Official Gazette]. https://www.resmigazete.gov.tr/eskiler/2014/06/20140614-2.htm

T.C. Resmî Gazete [Turkish Official Gazette]. (2019, Jun 21). *6306 sayılı Kanunun uygulanmasına dair yönetmelikte değişiklik yapılmasına ilişkin yönetmelik [Regulation amending the implementation regulation of Law No. 6306]* (Issue No. 30808). [Official Gazette]. https://www.resmigazete.gov.tr/eskiler/2019/06/20190621-1.htm

T.C. Resmî Gazete [Turkish Official Gazette]. (2020, Sep 15). *İmar planı değişikliğine ilişkin değer artış payına dair yönetmelik [Regulation on value increase share for zoning plan amendments]* (Issue No. 31245). [Official Gazette]. https://www.resmigazete.gov.tr/eskiler/2020/09/20200915-4.htm

Tekeli, İ. (2003). Kentleri dönüşüm mekânı olarak düşünmek. In Özden, P. P., Karakaş, İ., Turgut, S., Yakar, H., Erdem, D., & Palaoğlu, N. (Eds.), *Kentsel dönüşüm sempozyumu bildiriler kitabı* (pp. 2–7). Yıldız Teknik Üniversitesi.

Tekinbaş, E. (1991). İmar planı değişikliklerinde belediyelerin uymak zorunda oldukları kurallar. *Bayındırlık ve İskan Bakanlığı ile Belediyeler, 5*, 26–30.

Terzi, F. (2017, Dec 13). *Üst ölçekli planlama deneyimleri* konulu panelde AGÜ'de yaptığı konuşma. [Conference presentation].

Torun, M., & Bektaş, Y. (2022). *6306 sayılı Afet Yasası kapsamındaki kentsel dönüşüm alanlarında planlar aracılığıyla müdahale biçimleri: Sivas örneği* Intervention methods through plans in urban transformation areas under Disaster Law No.6306: The case of Sivas (Master's thesis, Erciyes University, Graduate School of Natural and Applied Sciences, Department of City and Regional Planning). YÖK National Thesis Center. https://tez.yok.gov.tr/UlusalTezMerkezi/

Türkün, A. (2015). Kentsel dönüşümü yeniden düşünmek: Mevcut uygulamalar ve hâkim söylem üzerinden bir değerlendirme. In Duman, B., & Coşkun, İ. (Eds.), *Neden nasıl ve kim için kentsel dönüşüm* (pp. 285–332). Litera Yayıncılık.

Türkün, A., & Kurtuluş, H. (2005). Giriş. In Kurtuluş, H. (Ed.), *İstanbul'da kentsel ayrışma* (pp. 9–24). Bağlam Yayınları.

United Nations Human Settlements Programme (UN-Habitat). (2020). *World cities report 2020: The value of sustainable urbanization*. United Nations Human Settlements Program. https://unhabitat.org/wcr/

United Nations International Strategy for Disaster Reduction (UNISDR). (2005). *Hyogo Framework for Action 2005–2015: Building the resilience of nations and communities to disasters (Extract from the final report of the World Conference on Disaster Reduction, A/CONF.206/6)*. Geneva, Switzerland.

Wilkinson, C. (2012). Social-ecological resilience: Insights and issues for planning theory. *Planning Theory*, *11*(2), 148–169. DOI: 10.1177/1473095211426274

Yavuz, U., & Sertyeşilışık, B. (2019). Mekânsal alanlarda plan değişikliklerinin gayrimenkul üretim/arza eğilimlerine etkileri. *International Journal of Political Science and Urban Studies*, *7*(2), 543–567. DOI: 10.14782/ipsus.623466

Yenice, M. S. (2014). Türkiye'nin kentsel dönüşüm deneyiminin tarihsel analizi. *BAÜ Fen Bilimleri Enstitüsü Dergisi*, *16*(1), 76–88.

Yıldız, G. S. (2013). Orta ölçekli kentlerde kentsel dönüşüm uygulamaları: Eskişehir örneği Urban regeneration practices in medium-sized cities: The case of Eskişehir (Master's thesis, Mimar Sinan Fine Arts University). YÖK National Thesis Center.

Yılmaz Bakır, N., Doğan, U., Koçak Güngör, M., & Bostancı, B. (2018). Planned development versus unplanned change: The effects on urban planning in Turkey. *Land Use Policy*, *77*, 310–321. DOI: 10.1016/j.landusepol.2018.05.036

ENDNOTES

[1] Under Law No. 6306 on Disaster, the term "disasters" primarily refers to earthquakes.
[2] It has been evaluated in terms of the minimum walking distances specified in the Spatial Plans Construction Regulation.

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