

# Architectural-urban study and revitalization of the 'Sušak residential zone'

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**Sveučilište u Rijeci**  
**Sveučilišni specijalistički studij Urbani studiji**

**Mateo Zonta**

**ARHITEKTONSKO-URBANISTIČKA STUDIJA  
I REVITALIZACIJA 'REZIDENCIJALNE ZONE SUŠAK'**

Poslijediplomski specijalistički rad

**Rijeka, siječanj 2024.**





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**ARCHITECTURAL-URBAN STUDY AND  
REVITALIZATION OF THE 'SUŠAK RESIDENTIAL ZONE'**

Poslijediplomski specijalistički rad

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**Rijeka, siječanj 2024.**



## Keywords and Summary

urban study, spatial development, Sušak plateau, subcenter, revitalization

The architectural-urban study and revitalization of the 'Sušak residential zone' encompasses an in-depth analysis of the socio-spatial conditions across the Sušak plateau and a revitalization plan for the associated residential zones. The complex history of Sušak and Rijeka's contemporary urban development strategies gave rise to distinct urban dynamics and processes unfolding across the plateau. The existing spatial development strategy seeks to alleviate the strain on the city center by dispersing urban activities and implementing monothematic developments on the periphery. In order to critically evaluate the implications of these interventions, this study examines the project of the University Campus in Trsat as well as the broader Sušak area as representative examples of these urban planning intentions. By mapping and analyzing the spatial characteristics and studying the available literature and strategic documents of the city of Rijeka, inconsistencies between the fundamental strategic goals and the actual urban conditions in the area of the Sušak plateau are observed. To address these disparities, specific guidelines are proposed, encompassing the restructuring of the former UKOD factory, KBC Sušak, and the University campus into a city sub-center, a re-orientation of the University campus development from northeast-southwest to southeast-northwest, and a proposal of a network of neighborhood centers to revitalize the Sušak plateau and its associated residential zones. The primary aim of this research is to provide an in-depth analysis of the socio-spatial conditions across the Sušak plateau, identify inconsistencies between the spatial plan intentions and actual conditions, and present suggestions for improvement of the identified deficiencies.

## Ključne riječi i sažetak

urbana studija, prostorni razvoj, Sušački plato, podcentar, revitalizacija

Arhitektonsko-urbanistička studija i revitalizacija 'rezidencijalne zone Sušak' analiza je prostorno-socijalnih kondicija Sušačkog platoa, te prijedlog revitalizacije njime obuhvaćenih rezidencijalnih zona. Složena povijest Sušaka i suvremene strategije urbanističkog razvoja grada Rijeke rezultirale su brojem specifičnih urbanih dinamika i odvijajućih procesa na tom području. Aktualna strategija prostornog razvoja temelji na programskoj disperziji gradskog središta, te monotematskim prostornim zahvatima na periferiji, s ciljem smanjenja opterećenja središnjeg i podizanje urbane kvalitete šireg gradskog područja. Kritičkim sagledavanjem posljedica važećih planova prostornog razvoja grada Rijeke kroz prizmu projekta Sveučilišnog kampusa i Sušačkog platoa kao ilustraciju tih namjera, stečeno je dublje razumijevanje njima povezanim prostornim procesima. Mapiranjem i analiziranjem prostornih karakteristika te proučavanjem dostupne literature i strateških dokumenata grada Rijeke, uočene su neskladnosti između njihovih osnovnih strateških namjera i stvarnih urbanih uvjeta na području Sušačkog platoa. Uočeni nedostaci detaljnije su elaborirani, te adresirani prijedlogom konkretnijih smjernica za njihovo rješavanje. One uključuju restrukturiranje područja bivše tvornice UKOD, KBC Sušak i Sveučilišnog kampusa u gradski podcentar, te preusmjeravanje razvoja Sveučilišnog kampusa s orijentacije sjeveroistok-jugozapad na jugoistok-sjeverozapad. Nadalje, predlaže se artikulacija mreže kvartovskih centara s ciljem poticanja revitalizacije cjelokupnog područja Sušačkog platoa i njemu pripadajućih rezidencijalnih zona. Osnovna svrha ovog istraživanja je pružiti uvid u prostorno-socijalne uvjete Sušačkog platoa, prepoznati i razraditi neskladnosti između prostornim planom postavljenih ciljeva i stvarnih uvjeta na njegovom području, te pružiti prijedloge za adresiranje identificiranih nedostataka.



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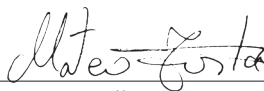
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## Introductory Notes

The urban development of Rijeka is characterized by a unique combination of geographical, historical, and economic factors that have shaped the city's growth and functions. For most of its history, the centrality of the old City center and the linearity of the coastal developments have played a dominant role in the urban fabric. The old City center and surrounding agglomerations served as the heart of the city, while the linear expansion along the coast has created a distinctive urban layout that reflects the city's economic activities.

In more recent times, the city's urban growth has shifted inland, occurring in parallel with the coastal expanse and extending radially along the principal access routes of the city. These urban expansions coincided with the clustering of activities within the city center, which in turn formed one of the basis for the spatial development strategy of the city today. A creation of a more balanced network of public and social facilities in order to alleviate the strain on the city center, while at the same time raising the urban quality of the broader cityscape.<sup>1</sup> This then resulted with a vision of creating a ring of new focal points with metropolitan significance beyond the broader city center.<sup>2</sup> The implementation of this strategy relies on the top-down execution of ambitious, large scale urban projects on the city periphery, which may present a range of challenges. While some, depending on the scale, exhibit aspirations akin to subcenter planning, they tend to materialize either as specialized, monothematic urban enclaves or as out-of-scale architectural landmarks within residential neighborhoods, which then raises doubts on the possibility of their integration as well as the extent of their transformative influence on the urban landscape.

One such example is the University of Rijeka campus on Trsat. Envisioned as a megasite at the location of the former military zone, its ambitions were short-lived due to systematic challenges and constraints impeding the envisioned project success. The campus now stands in an incomplete state, devoid of the intended attributes and aspirations, gradually succumbing to urban deterioration. Issues related to urban quality, integration, and fragmentation have become increasingly pronounced, prompting a critical reassessment of these spatial strategies and emphasizing the necessity for a more rigorous examination of these circumstances. Given the scale, complexity, and ambition of these projects aimed at reconfiguring and influencing the entire city, it is crucial to acknowledge that the urban development of Rijeka is at a pivotal juncture. Marked by a departure from traditional growth models, new urbanization is no longer synonymous with physical expansion, but rather entails optimizing existing resources within the city's boundaries. The once-dominant industrial sector is transitioning to a more technologically advanced and diversified economic landscape while the middle class has emerged as a pivotal driver of development, reshaping urban priorities.<sup>3</sup> To navigate this transformative juncture effectively, Rijeka must harmonize these dynamic elements within its spatial development strategy, learning from endeavors such as the campus on Trsat.

The existing strategy presents a dual challenge, impacting both the city center with socio-spatial implications of programmatic dispersion and the periphery with implementation of monothematic interventions. This study focuses primarily on the latter, given the intricate complexity of the former, which merits independent exploration. The impact of these interventions is scrutinized through the lens of the University of Rijeka campus on Trsat as well as the broader Sušak area, serving as tangible examples that embody the underlying strategic intentions.



**Keywords and Definitions**

Sušak Plateau - refers to a northeastern area of the city of Rijeka encompassing the neighborhoods of Centar-Sušak, Pećine, Bulevard, Vojak, Krimeja, Podvežica, Trsat, and Gornja Vežica. It is defined by explicit geographical boundaries of the coastline in the southwest, partly by the Rječina river in the northwest and by large topographical differences in the northeast, southeast and the northwest. This study recognizes the Sušak plateau as a distinctive area, underscoring its precisely defined geographical boundaries and controlled connections and gateways to the broader region of the city of Rijeka.

Residential zone - refers to a geographical space within an urban or suburban context that is primarily designated for residential purposes. It encompasses a concentration of homes, apartments, or other residential structures intended to accommodate the needs of a population. Residential areas are characterized by their focus on providing living spaces and related amenities, and they are often subject to specific land-use regulations and zoning ordinances to control and organize development. These areas are distinct from commercial, industrial, or other land-use zones, contributing to the spatial planning and organization of urban environments.

Urban Dynamics - refers to the constantly changing and interconnected processes, forces, and patterns within an urban environment. It encompasses the evolution of social, economic, cultural, and physical aspects of cities over time. Some elements of urban dynamics include economic activities, land use changes, cultural shifts, technological advancements, governance and policies, and environmental considerations. In the context of the Sušak plateau, these are closely linked to its specific history, post-socialist condition and contemporary spatial development strategy of the city of Rijeka.

Urban Decay - refers to the process of decline or degradation in the physical, social, and economic aspects of an urban area. It involves the deterioration of infrastructure, decline in property values, and a general decrease in overall livability. Urban deterioration is often associated with factors such as disinvestment, population decline, neglect of maintenance, and inadequate urban planning. This phenomenon reflects the negative transformation of an urban environment, impacting its functionality, aesthetics, and the well-being of its residents.

Urban Enclave - refers to a concentrated area within an urban setting that exhibits distinct characteristics, often in terms of cultural, socioeconomic, or functional attributes. It is marked by a cohesive and recognizable identity that sets it apart from the surrounding urban context. The term 'urban enclave' is frequently employed in urban studies and sociology to describe localized pockets of urban space that exhibit a degree of homogeneity and self-contained social dynamics within the broader urban fabric. In the context of the Sušak plateau, these contribute to the atomization and fragmentation of its urban fabric.

Activity Hotspot - refers to a concentrated area within an urban environment characterized by heightened levels of social, cultural, and economic interactions. These locations become focal points for various programs and services, attracting diverse activities and populations. The term implies a dynamic and vibrant atmosphere, where people converge for different purposes, such as shopping, socializing, or accessing essential services. These hotspots play a pivotal role in defining the urban fabric, contributing to the overall vitality and liveliness of the city. In the context of the Sušak plateau, these represent places where the majority of Sušak's urban life unfolds.

Urban Revitalization - is a strategic process aimed at renewing and enhancing urban areas that have experienced decline. It involves targeted interventions to improve economic, social, and physical aspects, with the goal to elevate qualities of the urban environment through planning, repurposing, and community engagement.

Subcenter - refers to a secondary concentration of commercial, residential, and institutional activities within a city that serves as a focal point for specific functions and services. Subcenters are typically designed to alleviate pressure on the primary city center, distributing urban functions strategically to enhance accessibility and reduce congestion. They often emerge in response to urban expansion and the need for decentralized development to accommodate growing populations. Subcenters contribute to the spatial organization of a city by providing localized hubs that cater to the needs of surrounding neighborhoods, thereby enhancing the overall efficiency and functionality of the urban system.

Neighborhood Center - refers to a localized hub within a residential community that serves as a focal point for various social, commercial, and public activities. Their aim is to enhance community cohesion and convenience by offering essential services, amenities, and gathering spaces.

Polynuclear Urban Field - refers to an urban structure characterized by the presence of multiple dispersed centers, each exhibiting distinct functional and morphological attributes. Unlike a monocentric city, which revolves around a single city center, a polynuclear urban field entails the existence of several nuclei, contributing to a decentralized and diversified urban landscape. This urban form emphasizes the interconnectivity and interdependence of various nodes, each serving as a focal point for specific activities within the broader urban context.

4 - *Riječka radnička naselja*, Daina Glavočić, Jasna Rotim Malvić, Srđan Škunca, 2017, *Uvodna riječ autora*, page 7

5 - *The Post-Socialist City, Urban Form and Space Transformations in Central and Eastern Europe after Socialism*, Kiril Stanilov, 2007, *The restructuring of non-residential uses in the post-socialist metropolis*, 5.3 *The retail explosion*, page 87-93

## Sušak Plateau's Urban Structure and Dynamics

To deepen our understanding of the ongoing transformation of Rijeka and its implications for the designated periphery, particularly with regard to the University Campus in Trsat and its impact, it is imperative to first establish a preliminary comprehension of the existing urban structure and vitality of the Sušak plateau.

Situated northeast of Rijeka's city center, the Sušak plateau spans approximately 350 hectares and houses around 31,000 residents across eight distinct neighborhoods: Centar-Sušak, Pećine, Bulevard, Vojak, Krimeja, Podvežica, Trsat, and Gornja Vežica. Originally an independent city with its own center until 1948, Sušak underwent integration into the city of Rijeka, resulting in the amalgamation of its city center with that of Rijeka. The Sušak plateau, marked by its consolidated residential character, exhibits a porous morphology, accentuating the presence of trees and green spaces. Notable landmarks in the area include the Trsat monastery and Trsat castle with the old city core, the Dvorana mladosti complex, the astronomy center, the Tower Centar mall, the Sušak gymnasium, the cultural center HKD Sušak, and at the heart of Sušak, two pivotal institutions and an industrial site — the University of Rijeka campus within the former Sušak military zone, the Sušak hospital complex known as KBC Sušak, and the industrial grounds of the ex-UKOD factory.

Sušak's residential zones feature three main urban typologies: multi-story linear residential blocks and towers, as well as single and multifamily houses. A portion of the residential area was initially planned as workers' settlements by major industrial companies. These settlements aimed to accommodate numerous workers and newcomers, addressing their families' daily needs. Aligned with the recognition of workers as pivotal to mass industrial production, the establishment of workers' settlements coincided with the growth of industry and the overall economy. However, as the economic structure evolved, and industrial production declined, the concept of worker's housing underwent a transformation, diminishing the significance of these settlements.<sup>4</sup> Consequently, with a few exceptions, the planning of these residential areas often overlooked the need for complementary support facilities and public spaces, such as retail stores and essential amenities. This stands in contrast to later comprehensively planned residential areas, as for example, the residential neighbourhood of Nove Fužine in Ljubljana. There, a diverse range of public programs, including libraries, schools, pharmacies, supermarkets, small business spaces, bakeries, as well as playgrounds, parks and other public spaces, were strategically integrated between large residential blocks. In Sušak, notable exceptions to this include healthcare and educational institutions, along with four executed structures hosting diverse public programs. These include a retail pavilion in the Vojak neighborhood (fig.7), a pavilion in the middle of a residential tower cluster with a public space in Podvežica (fig.8), a public base with complementary programs connecting two residential high-rises in Gornja Vežica (fig.9), and a ground-floor pavilion with a public base of a residential building in Podvežica (fig.10).

The systematic absence of the aforementioned considerations in most Sušak residential neighborhoods, coupled with the shift from industrial to diverse economic activities among its residents, has led to a proliferation of small businesses and associations which started appearing on the ground floors of single and multifamily houses, and in some cases, within larger typologies. These include a variety of retail establishments and service providers, ranging from convenience stores to mechanic workshops, as well as some civil associations (fig.11). This unplanned emergence of businesses and other programs within the residential fabric reflects the adaptive nature of urban development in response to evolving community needs, while at the same time, acting like a dispersed 'corso', fostering social interaction and a sense of neighborhood vitality reminiscent of traditional urban marketplaces. A point-cloud

morphological nature of these house typologies enables it to act as a reactive network, with these topical conditions arising and disappearing, concentrating and dissipating over time. (fig. 1) However, it also underscores the inherent challenges associated with this informal integration of businesses into predominantly residential zones. For instance, issues related to noise, zoning regulations, infrastructure support, accessibility and parking may arise. Often, these programs find themselves located in inappropriate structures or spaces, accompanied by low-quality improvised renovations or extensions to the existing residential urban fabric (fig. 11-12). It is important to strike a careful balance between nurturing this condition and addressing the practical considerations which emerge.



*figure 1. - diagram of Sušak's planned and emergent businesses, retail stores and other amenities*

This phenomenon is not exclusive to Sušak, as it mirrors prevalent trends in other post-socialist cities resulting from the economic transformations in Central and Eastern European countries following the collapse of the socialist system. These trends signify increased demand for consumer goods and services, the proliferation of small-scale private enterprises, and the emergence of entrepreneurs, particularly in retail and services, during the early stages of the transition period. In specific areas of residential districts, where accessibility and space were abundant, larger retail nodes evolved from initial clusters of kiosks or pre-existing socialist-era retail centers. Over time, these provisional structures were adapted and transformed into permanent establishments.<sup>5</sup> By the end of the 1990s, this period of initial retail expansion, characterized by the proliferation of myriad small retail establishments throughout the urban fabric, was overshadowed by the appearance of large scale retail investors on the scene, exemplified in Sušak with the Tower Center mall, a commercial shopping center with comparable size to the former city center of Sušak.

Nevertheless, the presence of small-scale enterprises in Sušak adds an interesting dimension to the urban landscape, fostering not only a sense of local commerce and community engagement, but also a low-level, latent urbanity. However, this condition provides only a partial answer. A more in-depth exploration is necessary to capture a comprehensive understanding of the dynamics of urban life and the manifestation of urbanity across the Sušak plateau.



6 - *Urbanity: looking into the discourse of researchers*, Brieuc Bisson, 2016, *Introduction*, page 1

7 - *Prostorno planiranje u Primorsko-goranskoj županiji, Planiranje Grada Rijeke od 1993. godine, Srđan Škunca, 2011, 2.3. Razdoblje od 2003. do 2007. godine*, page 67-68

8 - *Generalni urbanistički plan grada Rijeke – neslužbeni pročišćeni tekst ("Službene novine Primorsko-goranske županije" broj 7/07, 14/13 i "Službene novine Grada Rijeke" broj 8/14, 3/17, 21/19 i 11/20 -ispr.), 3.2.10.7. Gradski projekti-urbano pravilo broj 19*, page 379

## Recognizing Urbanity in Sušak

Urbanity refers to the distinctive characteristics, lifestyle, and culture associated with cities and urban areas. It encompasses the complex interplay of social, economic, and cultural elements that define urban life. Today, urbanity has become a very polysemous concept, yet one definition seems to emerge and to be shared by many researchers, coming from Jacques Lévy. According to Lévy, urbanity can be defined as the state of a space resulting from a combination of density and diversity. In Lévy's conceptualization, urbanity characterizes urban spaces according to a logic of 'gradient.'<sup>6</sup> The greater the density and diversity, the higher the degree of urbanity. This perspective highlights the idea that urbanity is not a binary concept, but rather exists on a continuum, allowing for a more nuanced understanding of urban spaces and their characteristics.

Density, in this context, refers to the concentration or compactness of people, elements, or activities within a specific urban area or space. It relates to how closely packed or crowded an area is. This concept of density is not limited to just the number of people but also encompasses the density of various urban features such as buildings, infrastructure, services, and economic activities. High density often implies that there is a significant concentration of people and resources in a relatively small geographic area, which can lead to increased interactions and interdependencies among residents and various urban elements. Diversity, on the other hand, refers to the variety and multiplicity of social, cultural, economic, and demographic characteristics present within an urban environment. This includes diversity in terms of the composition of the population. It also extends to diversity in the range of services, amenities, and opportunities available in the city, such as diverse job options, cultural activities, educational institutions, and housing choices.

In light of this perspective, urbanity manifests as clusters of diversity, urban spaces where differences intersect. Within the context of Sušak, such clusters are evident in activity hotspots where diverse programs converge. A spatial mapping of these occurrences in combination with other elements influencing urban activity reveals a pattern of spatial clusterings. These cluster formations represent areas with heightened urban activity, varying in both density and diversity.

In Sušak, these include: the historical Sušak city center (A), the old city core in Trsat and Dvorana Mladosti (B), the intersection of Martina Kontuša and Kvaternikova street in Podvežica (C), Kumčičeva street in Krimeja (D), marked by the HEP office building, the intersection of Kumčičeva and Kvaternikova street in Krimeja (E) with diverse commercial programs, and Drage Gervaisa street in Podvežica (F), featuring a planned commercial pavilion amidst high-rises. The latter features a public space with four improvised structures housing commercial ventures and cafés. Another activity hotspot is situated around St. Ana Church in Gornja Vežica (G), accompanied by a school, playgrounds, and additional facilities. In close proximity lies the planned base of two residential highrises (H) with public programs but housed in an unsuitable structure. Conversely, an commercial activity hotspot is located on Špinčičeva street near the Tower commercial shopping center in Pećine (I), hosting various businesses, a hostel, and entertainment facilities near large industrial buildings. Additional, but more dispersed hotspots are found near the first Sušak gymnasium in Bulevard (J), on Marohničeva street across the Art Academy in Trsat (K), near stadium Krimeja in Vojak (L), and on Slavka Krautzeka street in Trsat (M). (fig. 13-38)

The more scattered configurations (activity hotspots J,K,L,M) represent a broader residential area where various planned and spontaneous public programs have come into coexistence. They are distinguished by a heightened frequency of people and a diverse array of programs, however, this density is not immediately apparent due to

a deficiency in visual connections among them. Conversely, central configurations (activity hotspots D,E,F,G,H) signify evident hubs of urban activity, where programs are densely concentrated, particularly around busy intersections, bus stops, and significant institutions or neighborhood amenities like retail stores. These diversity clusters exemplify activity hubs where Sušak's urban life unfolds, fostering the social, cultural, and economic interactions that are critical for the vibrancy of urban areas. (fig. 2)

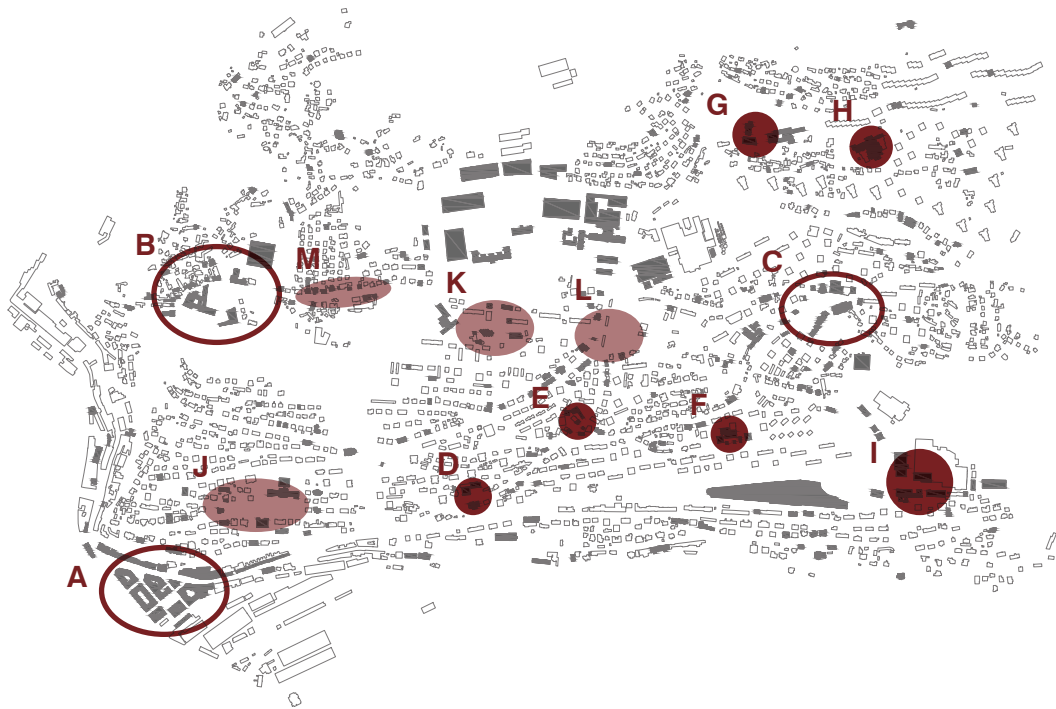


figure 2. - diagram of all public programs and institutions with marked urban activity clusters

### Contemporary Spatial Development Strategies in Sušak

Another, less apparent aspect of Sušak's urban structure and dynamics are the contemporary spatial development strategies instituted by the municipal authorities. The overarching concept and phases guiding the development of Rijeka's urban system were established through the general urban plan of 2007. Areas of particular interest for further development and planning of the city are determined at the level of the so-called 'city projects' (Delta area with the Baroš port, University campus, Torpedo area, Rujevica secondary city center together with the residential area and sports complex of the new stadium and sports hall, and the Preluka area), 'urban axes' (i.e. the area of integral reflection of socio-spatial relations and a more flexible attitude towards given spatial indicators) and 'microcenters'.<sup>7</sup>

'City projects' are expansive initiatives involving large-scale, ambitious undertakings, devised to reconfigure and exert influence over entire urban landscapes. They represent areas designated for significant spatial and urban reorganization, envisioned as pivotal drivers of development, identifiable urban landmarks, and catalysts for macro-scale spatial transformations. Moreover, these initiatives are aligned with the city's overarching strategy, seeking to establish a more equitable network of public and social facilities. This strategic pursuit aims to alleviate pressure on the city center while enhancing the overall urban quality of the broader cityscape.<sup>8</sup> Consequently, this strategic direction has given rise to a vision of spatial development that entails the creation of a ring of new focal points with metropolitan significance, extending beyond the broader city center. An example of a city project in Sušak is the development of the University of Rijeka campus in Trsat together with the Sušak



9 - Generalni urbanistički plan grada Rijeke – neslužbeni pročišćeni tekst ("Službene novine Primorsko-goranske županije" broj 7/07, 14/13 i "Službene novine Grada Rijeke" broj 8/14, 3/17, 21/19 i 11/20 -ispr.), 3.2.10.7. Gradski projekti-urbano pravilo broj 19, page 383-384

10 - Generalni urbanistički plan grada Rijeke – neslužbeni pročišćeni tekst ("Službene novine Primorsko-goranske županije" broj 7/07, 14/13 i "Službene novine Grada Rijeke" broj 8/14, 3/17, 21/19 i 11/20 -ispr.), 3.2. Organizacija, korištenje, namjena, uređenje i zaštita površina, page 217-218

hospital complex KBC Sušak. These endeavors aim to create a concentrated complex for higher education and healthcare, contributing significantly to the sociological and urban evolution of Sušak.<sup>9</sup>

'Microcenters' represent condensed and strategically situated urban hubs within both existing and new urban areas, designated to serve as compact focal points that integrate a multifaceted array of social and commercial infrastructure. They receive systematic support through the implementation of zoning regulations and complementary infrastructure, ensuring a heightened sense of accessibility and convenience by consolidating a diverse range of amenities in close proximity. Their strategic positioning within the urban fabric is aimed at optimizing accessibility for residents and visitors alike, fostering a sense of community and enhancing the overall quality of urban life. These microcenters can vary in content and spatial dimensions, gathering different amenities to various extents. Where spatial possibilities permit, a focus is placed on reshaping microcenters within existing urban areas into recognizable pedestrian spaces. In planned urban areas, microcenters are to be designed to ensure maximum pedestrian accessibility, thereby reducing unnecessary reliance on automobiles for accessing public amenities. Furthermore, as conceptualized in the general plan, the planning of microcenters necessitates the inclusion of residential functions, which can be typologically arranged to emphasize the central role of the respective areas. An example of a planned microcenter in Sušak is situated at the junction of Martina Kontuša and Kvaternikova streets, while another, derived from an existing urban area encompasses the historical core of Trsat together with Dvorana Mladosti and the Trsat monastery, both supported by zoning regulations.<sup>10</sup> (fig. 15-18)

'Urban axes,' unlike microcenters where central facilities are concentrated on a relatively compact surface, gather central and other amenities linearly, typically oriented to integrate multiple central content areas that are spatially separated and are shaped by zoning regulations and the strategic placement of social infrastructure and public spaces. They are generally associated with main city roads, either existing or planned, where a risk of physiognomic and functional erosion of quality (mostly existing roads) or complete absence of any function other than traffic exists (mostly planned roads). The general plan identifies urban axes as areas for more liberal urban typologies, contingent on spatial characteristics, traffic accessibility, and parking solutions. Urban axes may not necessarily involve construction but can be developed as public spaces, green areas, gathering squares, etc. Its principal objective lies in augmenting activity along specific axes and streets, thereby enhancing the urban character and fostering a heightened sense of urbanity within delineated areas. In Sušak, an example is the urban axis from Frankopanski trg in the historical core of Trsat microcenter to the microcenter of Podvežica at the intersection of Martina Kontuša and Slavka Krautzeka street (fig. 39). Encompassing diverse typological and morphological manifestations, according to the general plan it holds the potential to become the 'corso' of the Sušak's plateau. Emphasized with the gradual development of the University campus and Clinical Hospital Center, it creates a nexus of several establishments and areas, such as the historical core of Trsat, the shopping center in Kontuševe Street, the 'Orijent' stadium area, the microcenter of Podvežica, schools, kindergartens, etc. The urban axis is further reinforced with mixed-use zoning regulations extending from Dvorana mladosti to the University campus.<sup>10</sup>

In addition to these three urban planning typologies, Sušak's historical context reveals the presence of a central area that played a pivotal role in the plateau's development. Although this former Sušak city center is now amalgamated with the broader city center of Rijeka, Sušak's geographical and historical landscape underscores its continued relevance. When viewed through the lens of urban planning, a noteworthy counterpart emerges on the opposite side of the Sušak plateau - the Tower Center Rijeka, a commercial shopping center of comparable size to the historical city

center of Sušak. Gradually, supported by an extensive road infrastructure system, a symmetrical composition of distinct spatial concepts unfolds across the entirety of Sušak. The planned microcenter at the intersection of Slavka Krautzeka serves as a counterpoint to the derived microcenter of the Trsat historical core and Dvorana Mladosti, with the urban axis connecting these two microcenters from Frankopanski trg, via Slavka Krautzeka and Martina Kontuša street. Likewise, the Tower Center Rijeka contrasts with the former Sušak city center. The city project embodied by the University Campus together with the Sušak hospital complex acts as a wedge within the context of the urban axis, introducing a distinct element into the overall spatial composition of Sušak. (fig. 3)

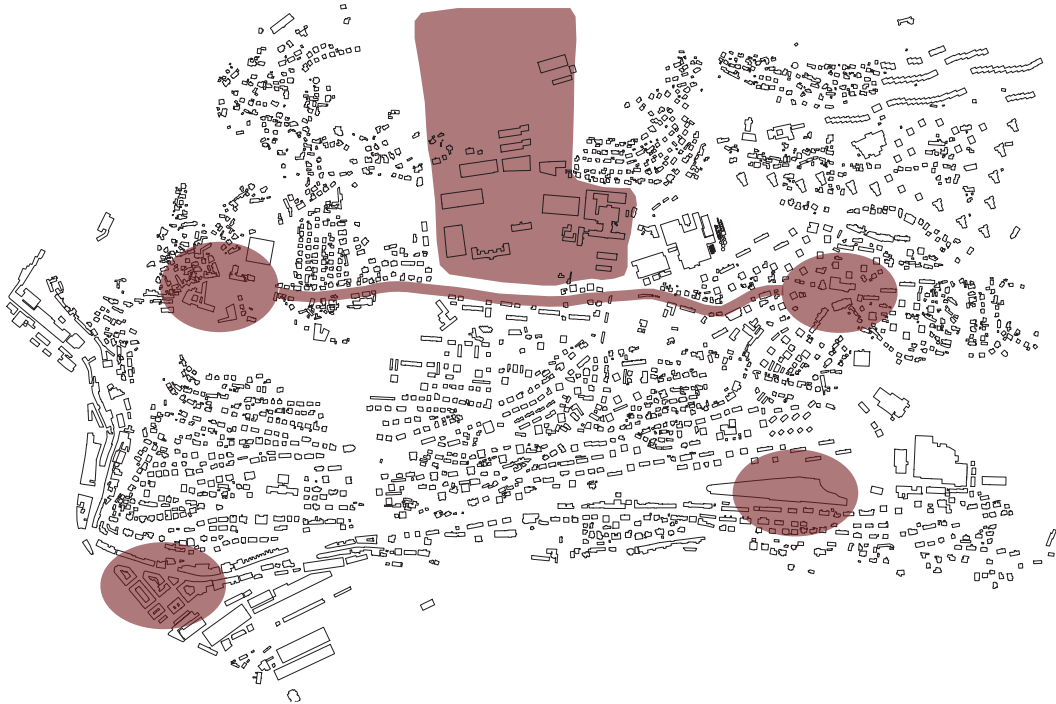


figure 3. - diagram of the composition of spatio-conceptual elements from the current development strategy

## Inconsistencies in Sušak's Urban Development

While the urban planning paradigms for Sušak exhibit conceptual coherence, their effective execution faces notable challenges, revealing inconsistencies between the articulated intentions and the unfolding urban conditions across the Sušak plateau. A clear dichotomy emerges between the designated microcenters and the existing activity hotspots functioning as microcenters in Sušak. These cluster formations of urban activity, varying in both density and diversity, often lack intentional planning, urban conditions, and support from zoning regulations or adequate urban infrastructure.

The more compact ones (D,E,F,G,H,I) resemble the aforementioned microcenters and signify evident hubs of urban activity where programs are densely concentrated, particularly around busy intersections, bus stops, and significant institutions or neighborhood amenities like retail stores. However, these programs are frequently housed in suboptimal structures and often lack a meaningful connection to the streets and their immediate surroundings. Furthermore, the area may experience a disconnect with the broader neighborhood and grapples with a shortage of public spaces and cohesive urban elements. In instances where open spaces exist, they tend to predominantly manifest as parking lots. The more dispersed ones (J,K,L,M) bear resemblance to the urban axes. They lack a clear centrality or continuity, and are fragmented by elements of infrastructure or other features, including wide roads

and intersections, gated or extensively landscaped spaces, significant disparities in topography, or large building typologies with impenetrable ground-floors. There is an absence of strong urban elements such as continuous public ground-floor facades and direct connection to the sidewalk, well-defined public spaces or other cohesive elements that could effectively define and characterize the area. They often evolve in proximity to one or more public institutions or landmarks and common points of transit as bus stops, and similar.

Due to the absence of complementary amenities in the residential neighborhoods across the plateau, Sušak benefits from these spots of various sizes and functions, serving as the functional focal points for the community. Nevertheless, the dichotomy between the designated microcenters and the current disposition of urban activity hotspots indicates failures in their positioning, size, number and methods of implementation.

Similarly, the urban axis across the Sušak plateau, shaped by zoning regulations and the strategic placement of social infrastructure and public spaces, faces challenges in execution. The prevalent building typology within the designated mixed-use area along Slavka Krautzeka street comprises exclusively detached single and multifamily houses, demarcated from one another and the street by fences, courtyards, and gardens. While a row of lush trees along both sides of the road contributes to a distinguished and high-quality ambiance (fig. 39), the houses themselves are ill-equipped for public use and suffer from poor connectivity to the street due to their familial nature. As a consequence, property owners resort to constructing improvised extensions towards the street to accommodate new public programs (fig. 40). This practice, if continued systematically over time, threatens to compromise the harmony and quality ambiance of the street. The proliferation of improvised extensions devoid of architectural merit could transform the once harmonious thoroughfare into a chaotic and unfriendly environment. Optimal sidewalk activation typically involves the implementation of uninterrupted public ground-floor facades, however, in this instance, such an approach is unfeasible within the zone characterized by family houses. These attempts are likely to yield fragmented and chaotic outcomes, thereby detrimentally affecting the promenade ambiance, contradicting and undermining the original intent of the urban axis. Furthermore, social infrastructure placed as pavilions between residential neighborhoods, aiming to address the area's infrastructural deficit, diverges from contributing to the designated urban axis and planned urban activity along Slavka Krautzeka and Martina Kontuša street due to its fragmented nature, topographic disparities, and lack of connection to the thoroughfare, thus further diminishing the relevance of the initial intentions.

In contrast to the abovementioned paradigms, city projects are the most ambitious ones, devised to reconfigure and exert influence over entire urban landscapes, simultaneously alleviating the strain on the city center while elevating the overall urban quality of the broader cityscape. However, the implementation of this specific vision relies on top-down execution of ambitious, large scale urban projects on the city periphery. This then presents a range of challenges, as these projects frequently materialize either as specialized, monothematic urban enclaves or as architecturally imposing landmarks within residential neighborhoods, which then casts doubts on the possibility of their integration and the extent of their transformative influence on the urban landscape. The issues extend further to zoning-based urban planning.

This urban planning type determines what activity should emerge on what location, and the division, distribution, and appearance of a building consequently results from the optimization process of functional activity. The optimal organization of functional activity thus systematically led to a specific typology in which that function prospers. Accordingly, urban design shrunk to the orderly placing of the various building types

that best suited the commissioned program. This type of planning leaned on the idea of the engineerable society. Only in the few cases where the total program was sufficiently large and diversified and the budget made it possible to realize the project as a single coherent operation did that essentially work. But this approach quickly reaches its limits because in the course of realization, many of the initially planned facilities never materialize, and city dwellers are systematically confronted with unfinished projects.<sup>11</sup> They face incomplete - and therefore misshapen districts, without any kind of urbanistic quality, much like the University Campus in Trsat.

These challenges arise from shifts in economic structures, political uncertainties, financial constraints, and cultural influences within post-socialist urban contexts. The adoption of market-based systems, accelerated urbanization, and the lack of experience in market-driven development collectively pose difficulties in the establishment of cohesive urban environments. These complexities are further compounded by political transitions, financial instability, and the balancing of global trends with local identities, impeding the realization of enduring and well-integrated urban visions.

Nevertheless, these circumstances cover only contextual factors, leaving program-dependent conditions unexamined. Both the University Campus and the hospital complex represent institutions whose importance extends throughout Rijeka's urban agglomeration and broader, contributing to Sušak's inter-regional significance. A more comprehensive understanding of these environments and their associated institutions is essential for effectively addressing the challenges in establishing a well-integrated urban area.

12 - *Foundations of Urban Design*, Marcel Smets, 2022, *Fabric - Citadel*, page 24-25

13 - *Spaces of Edification - The Campus as Urban Theory*, Benjamin Carter, 2022, *Introduction*, page 10

14 - *Enclave Urbanism*, Shenjing He, Kun Wang, 2019, *Defining Enclave Urbanism*, page 1

15 - <https://rijekaheritage.org/hr/kj/lukod>, accessed in december 2023

16 - <https://forum.lokalpa-trioti-rijeka.com/viewtopic.php?f=175&t=2488>, accessed in december 2023

17 - <https://forum.lokalpa-trioti-rijeka.com/viewtopic.php?t=2755>, accessed in december 2023

## Urban Integration of Modern Institutions in Sušak

From the late eighteenth century onward, specific typologies arose for the new institutions of the modern age. Prisons, hospitals, schools, ministries and universities were systematically envisioned as enclaves. Built as separate fragments, their design was clearly dictated by internal efficiency, making them fundamentally self-centered objects. Later through the 20th and 21st century, the physical attributes of these institutions gradually changed as they started reflecting the changes in societal values and urban approaches.<sup>12</sup> University campuses, for example, became innovation districts and knowledge hubs seamlessly blended with the city, clinical centers transformed from isolated clinical complexes to health districts with wellness amenities, mixed-use spaces and public accessibility, while prisons evolved from isolated and hidden facilities to correctional campuses and reentry centers, becoming a potential part of comprehensive urban solutions. This transformation underscores the interconnectedness between societal needs, urban planning, and the roles these institutions play in shaping contemporary urban landscapes, thereby broadening the spectrum of their potential physical expressions.

Fundamentally, the spatialization of these institutions constitutes an organized physical environment which operates on the scales of architecture and urbanism simultaneously, incorporating an overarching concept and purpose. In addition to their physical attributes, these environments are a symbolic representation of an institution, conveying how their organization and government is manifested in a physical form, thus making them intrinsically dualistic. On the one hand, as physical environments, on the other, as complex systems and symbolic form.<sup>13</sup> From this, a multidimensional relational framework emerges, one encompassing the causal relationships between the organized environment an institution operates in and the multidimensional context within which it is situated. We may observe these relations as the interrelations of parts that constitute the institutional whole, and the relation of these parts with entities from their surroundings - the city. (fig. 4)

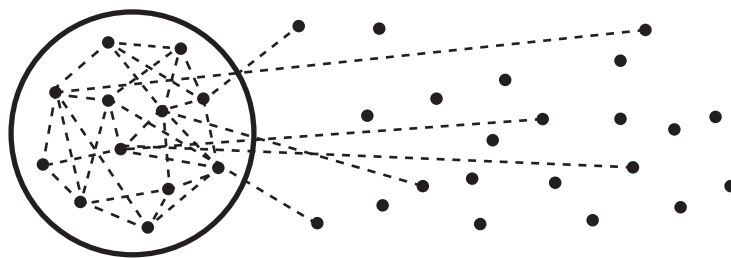


figure 4. - a symbolic representation of an institutions inward and outward interrelations

These formations serve a pivotal role in shaping urban dynamics and influence urban development, social cohesion, economic vitality and cultural identity of cities. They serve as magnets for people, activities, and investment, transforming urban areas into dynamic centers of economic, social, and cultural exchange. Their spatial arrangement and design influence how people navigate and experience urban environments and serve as focal points for social interactions and collective experiences, contributing to the creation of inclusive and diverse urban communities. As such, they can serve as relevant catalysts for urban growth as well as subcenter formation, making them vital parts of larger and more complex territories; regions, city centers, subcenters, neighborhoods, etc.

While their relevance can hardly be disputed, strategic placement and thoughtful integration into urban planning can amplify their impact, ensuring a synergy between these urban attractors and the broader context, otherwise, they risk transforming



into urban enclaves - territorially homogeneous units distinguished by specific social, cultural, or economic features. This transformation could have significant consequences for the city's diversity and liveliness. These entities represent enclosed spaces with diverse functions, displaying varying degrees of closure and establishing distinct boundaries. These boundaries can take the form of visible physical barriers like walls or non-physical demarcations such as institutional, legal, social, and cultural factors. The intent is to set them apart from other areas, fostering mono-functional, monocultural, and exclusive features occupied by homogeneous groups or activities.<sup>14</sup> Such interventions, while potentially achieving specific objectives, may inadvertently undermine the complex and interconnected nature of urban life. In the center of the Sušak plateau, three such entities materialized: the University of Rijeka Campus, the Clinical Hospital Center KBC Sušak and the industrial site of the ex-UKOD factory.

### **Past and Present of Sušak's Urban Enclaves**

In the period from the 1930s to the 1970s, Sušak was home to the first Yugoslav factory for engineered wood known as UKOD (Tvornica ukočenog drva). UKOD (1931. - 1970.) specialized in the production of cross-laminated panels (plywood) used for making furniture, including industrial applications and interior furnishings for various purposes such as railway carriages, car bodies, and aircraft. UKOD had branch offices in several major cities, including Ljubljana, Zagreb, Belgrade, Split, and Sarajevo. By the 1940s, the factory employed 280 workers. However, significant financial losses in the late 1960s led to its closure in the following decade, with Istravino taking its place. To this day, part of the former UKOD has been preserved as part of the Istravino factory, however, the buildings hold no architectural value.<sup>15</sup>

The Sušak Hospital, known as KBC Sušak (King Alexander's Hospital) (1935.), was established in the early 20th century when Sušak emerged as a significant maritime and industrial center on the Croatian coast. The hospital's construction began in 1934 after facing delays due to post-World War I financial difficulties, and it was subsidized by the Croatian Royal Government. A competition was held for the hospital's design, and Stanko Kliska, an architect from Zagreb, won the first prize. The Sušak Hospital was inaugurated in 1935, featuring 200 beds and becoming one of the most modern hospital facilities of the time. The hospital was a three-story structure with a basement and a rooftop terrace. Patient rooms faced south, while other hospital facilities faced north.<sup>16</sup> (fig. 5)

The military barracks, now the site of the current University campus, ceased operations in 2004., marking 75 years of military use. Limited availability of archival material, primarily in Zagreb and Belgrade, has hindered significant scientific research into its history. The barracks, constructed in 1929, played various roles under different armies and political ideologies. Its strategic location, overlooking the region, made it crucial during the Kingdom of Yugoslavia, Italian occupation, and later under German control during World War II. Post-war, it became a military music school and expanded in the 1950s. In 1991, during the Croatian War of Independence, the Yugoslav People's Army vacated the barracks, leading to its eventual transformation into the University campus in 2004. The campus's development involved the demolition of military structures, erasing the historical presence of the barracks.<sup>17</sup>

These territories reflect the historical development of industrial, military and medical facilities in Sušak, playing important roles in the region's economic, military and healthcare landscape during the 20th century. Today, the current area is constituted of three physically and functionally independent and monofunctional enclaves. They tend to occupy a finite area, spatially delimiting the extent of a self-governing

Figure 5. - <https://forum.lokalipatrioti-rijeka.com/viewtopic.php?f=86&t=3130>, accessed in december 2023

institution in relation to other circumambient conditions. The university campus as well as the clinical center serve as strong urban attractors and catalysts for potential growth, while the industrial enclave detracts from the overarching potential of the whole to evolve into a multifaceted and vibrant urban environment.

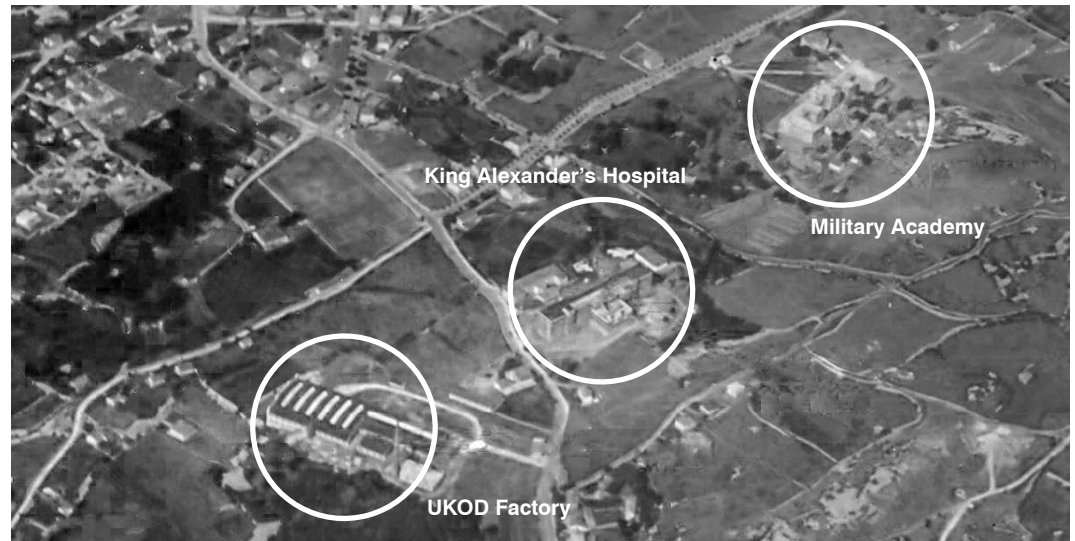


figure 5. - aerial view of the territory, aproximately 1940.

However, it is also important to acknowledge that urban diversity and integration are not solely shaped by spatial factors but also by temporal dimensions. Vast areas constructed from the ground up frequently grapple with this temporal deficiency. Their rapid construction and development prioritize spatial elements, and while doing so, they miss the organic growth and evolution that characterizes older and established urban areas. The lack of historical context and the absence of pre-existing social dynamics results in a deficit of temporal depth.

### Enclaves Spatial and Social Repercussions

In the broader context of Sušak's residential area, the emergence of these three enclaves represents a noticeable demographic shift characterized by a concentration of highly educated individuals and students. However, this demographic transformation has remained somewhat inconspicuous, primarily due to the limited interaction between the residents of Sušak and the individuals residing in these enclaves. These enclaves tend to operate independently of their surrounding neighborhoods, offering minimal activities or programs for the local community. This detachment is further compounded by the scarcity of well-designed public spaces. While some individuals choose to live in Sušak due to the proximity to their workplaces or educational institutions, this overlap in residency and the local population does not foster significant and meaningful connections. Additionally, the housing facilities for students in these enclaves operate as self-contained entities, further contributing to the lack of integration with the surrounding Sušak neighborhood. Surprisingly, there has been minimal response from the neighboring areas to the presence of these enclaves, as evidenced by the absence of new public programs or amenities on the ground floors of nearby buildings. The only notable exceptions are a few cafés, mostly along Slavko Krautzek street (fig. 40). This absence of interaction and integration between the enclaves and Sušak highlights a missed opportunity for the enrichment of both communities. The potential for knowledge exchange, cultural diversity, and the development of a more vibrant and interconnected urban fabric remains largely untapped.

The lack of responsiveness and integration can be partially attributed to a rather peculiar phenomenon - a sleight of hand of sorts. The designated area was a military zone in the past, a type of complex that has been planned from above and designed on the basis of a specific, intrinsic functionalism. The complex constituted an enclave within the city fabric and did not conform to the formative logic and declined the particular character of the latter. Due to its specificity and exclusivity, the lack of a contextual reaction was not at all surprising. What followed was an independent consolidation of the surroundings, as opposed to a densification and integration dynamics which could be caused by working class families in an industrial enclave scenario. Later, when the military zone was put out of use and the university campus came about, it provoked no reaction from the already anemic surroundings. Partly due to a dividing wall, extensive green buffer zones and poor path interlacing isolating the campus from the city, and partly due to the already consolidated surroundings, there was no interlock, even though a university campus might be considered as a strong urban attractor and catalyst. A substitution of the military zone enclave with a campus enclave took place, hence the sleight of hand.

Within campus dormitories, areas designated for informal interaction are situated on exclusive rooftop spaces or concealed within individual faculty buildings, isolated from public areas. (fig. 41) This positioning impedes easy access and diminishes the potential for spontaneous encounters or a sense of community among students and faculty. Additionally, the lack of inclusive and accessible communal spaces exacerbates the disconnection between the campus and the surrounding urban fabric. The absence of well-designed public spaces further compounds this issue. This exclusionary approach to design restricts the potential for the cross-pollination of ideas and interdisciplinary collaborations that may develop in more integrated urban environments. Evidencing the systematic lack of consideration for the so far mentioned aspects are unplanned urban informalities that have arisen on the campus grounds. For instance, an unassuming hexagonal canopy, erected between two dormitory buildings, reflects the occupants' longing for communal public spaces (fig. 42). Likewise, several scattered outdoor artworks created by students from the Academy of Applied Arts signify a desire for the academy's creative program to connect with the external environment (fig. 43). This becomes particularly relevant as the program with the highest potential to activate public spaces is located within the most introverted and unsuitable building on the campus. While the campus lacks well-conceived public and communal spaces, the Sušak hospital complex environment is dominated by vehicles and parking spaces, effectively distancing users and prioritizing car-centric design of public spaces over human-centered planning (fig. 44). As for the industrial enclave, it adheres to its internal operational logic, focusing on the logistics inherent to its functions. Nonetheless, it's essential to recognize that the specific program within this enclave does not necessitate public spaces and adheres to a different rationale within this specific context. The urbanism of each is characterized by an orthogonal composition juxtaposed on a sloping terrain. Instead of horizontal connections following the natural terrain contours while interconnecting the three, perpendicular links are favored, disrupting the typical flow of pedestrian movement and further contributing to the atomization of the whole. (fig. 45)

## **An Evaluation of Current Developments**

The current spatial arrangement of the university enclave primarily directs its expansion toward the northeastern part of the former military zone. Historically, the decision to establish the university in this zone was influenced by the availability of sufficient space to accommodate all the university buildings. However, this approach lacked a strategic perspective that considered the campus in the context of its immediate surroundings and the broader urban environment. The military zone,



Figure 6. - <https://forum.lokalipatrioti-rijeka.com/viewtopic.php?f=19&t=2388&start=15>, accessed in december 2023

initially perceived as a unified entity, was mainly valued for its functional adequacy and its potential to house university faculties in purpose-built structures, alleviating the need for repurposed buildings in the city center. Analyzing this designated area for campus development reveals a terrain characterized by sloping topography, extending to the edge of the Trsat plateau. The campus borders the clinical center to the southeast, residential areas to the south and northwest, and the termination of the Trsat plateau to the northeast. This territory exhibits a significant 32-meter height differential from its lowest to highest points, spanning approximately 700 meters from Slavka Krautzeka Street in the southwest to the northeastern plateau border. It encompasses an area roughly three times the size of the old city center of Rijeka.

The prevailing development axis suggests an expansion of the already constructed campus area toward the northwestern edge of the plateau. This previously undeveloped region was vacant even during its military use and served as a parking and military vehicle polygon with two workshop halls. Today, these halls are largely abandoned and occasionally repurposed for events such as concerts. However, the designated expansion area is relatively isolated, bordered by forested greenery to the southeast and northwest, the plateau precipice to the northeast, and the existing campus buildings to the southwest. These isolation and connectivity challenges are exacerbated by the sloping terrain. Under these circumstances, there is little to gain from this expansion vector, as its conditions are less favorable than those of the existing campus, which could benefit from its proximity to populated areas and city roads. Furthermore, this expansion would only worsen the current campus conditions, contributing to further fragmentation and isolation from the surrounding urban environment. Areas of the existing university buildings, the clinical center and the industrial halls, each exhibit unique set of circumstances and challenges, which, in isolation, remain unaddressed within their respective boundaries. These issues range from the fragmentation and atomization of the campus environment to the car-centric nature of the clinical campus and the untapped potentials in both enclaves. Additionally, the industrial enclave grapples with a pronounced monothematic character, while occupying a valuable and strategically well-positioned territory with potential becoming a connecting element with the residential areas on the northeast over the railway, as well as residential areas on the east and southeast of Sušak. Each of these areas lacks a comprehensive and viable spatial development strategy.

Furthermore, the existing development plans demonstrate a disregard for public spaces and show intentions to exacerbate all the aforementioned challenges. (fig. 6) These plans prioritize internal programmatic efficiency, further reinforcing the status quo without addressing the pressing needs for comprehensive urban development.



figure 6. - visualisation of the planned development of the Sušak hospital complex



18 - Prostorni plan uređenja grada Rijeke – neslužbeni pročišćeni tekst ("Službene novine Primorsko-goranske županije" broj 31/03, 26/05 i 14/13 i "Službene novine Grada Rijeke" broj 3/17 i 21/19), Obrazloženje Prostornog plana uređenja grada Rijeke – neslužbeni pročišćeni tekst, 3.1. Prikaz prostornog razvoja grada u odnosu na prostoru i gospodarsku strukturu Primorsko-goranske županije, page 105-106

19 - *The Post-Socialist City, Urban Form and Space Transformations in Central and Eastern Europe after Socialism*, Kiril Stanilov, 2007, *The restructuring of non-residential uses in the post-socialist metropolis*, 5.1 *The rise of the commercial property markets after 1989*, page 73

## Concluding Observations

The complex history of the plateau coupled with contemporary development strategies of the city of Rijeka gave rise to a number of urban conditions across the Sušak plateau. The extensive urban center of Rijeka reflects a prolonged historical continuity of development, leading to the concentration of diverse public and social functions from the Rječina River westward.<sup>18</sup> The subsequent dispersal of urban activities in Rijeka resulted from the transition to a market-oriented economy, marked by factors such as decentralization, privatization of state-owned enterprises, and the unleashing of entrepreneurial initiatives. The end of the state's monopoly, coupled with changes in land use policies, led to the fragmentation of economic activities across different parts of the city. Spatial readjustments, property development, and the diversification of functions contributed to the creation of a more dynamic and decentralized urban landscape in response to new economic dynamics.<sup>19</sup> However, within the same context, the role of the Sušak urban area is peculiar, particularly considering the extent of functions, institutions, built spaces, and the overall urban culture developed during the period when Rijeka and Sušak evolved as two separate entities.<sup>18</sup> Consequently, Sušak with a light network of health, educational, and other institutions, found itself between a monofunctional bedroom community and an independent city. Furthermore, the city of Rijeka's shift from concentrating urban activities in the city center, combined with a departure from the socialist notion of urbanization as physical expansion, resulted in the establishment of inter-regionally significant institutions of KBC Rijeka and the University Campus on the grounds of the ex-military zone and the King Aleksander hospital in the center of the Sušak plateau.<sup>18</sup>

The planning strategies derived from the 2007 general plan aimed to manage the aforementioned complex transition processes and respond to the intricate urban conditions of Sušak by implementing a rigid composition of spatio-conceptual elements across the plateau. However, the ambitious yet non-contextually derived strategy led to unintended outcomes, resulting in discrepancies and inconsistencies. This may be attributed to a lack of comprehensive studies of the area in question and an absence of a continuous monitoring and guidance system to complement the execution of the general plan. As a result, the intentions of the strategy and the actual conditions of Sušak diverge, while the general urban plan does not meaningfully engage with the urban conditions of Sušak. The overall urban quality across the Sušak plateau is gradually declining, marked by informal appropriations of public spaces and residential facilities, alongside systematically substandard developments that fragment the urban and social landscape, thereby diminishing its environmental, ambient and urban qualities.







figure 7. - retail pavilion in the Vojak neighbourhood



figure 8. - retail pavilion with a public space and surrounding improvised kiosks in Podvežica



figure 9. - public base connecting two high-rises in Gornja Vežica



figure 10. - public base of a residential building in Podvežica

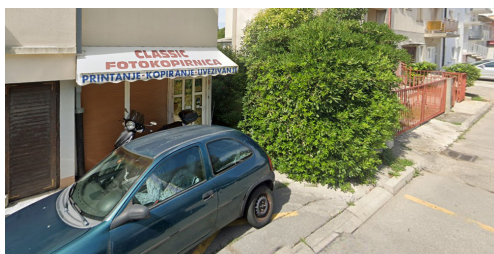


figure 11. - example of a small bussiness on the groundfloor of a residential building in Trsat



figure 12. - example of an ad-hoc café terrace in the middle of a parking lot near Dvorana Mladosti



figure 13. - historical Sušak city center (activity hotspot - A)

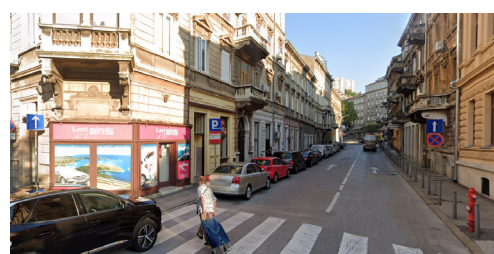


figure 14. - historical Sušak city center (activity hotspot - A)

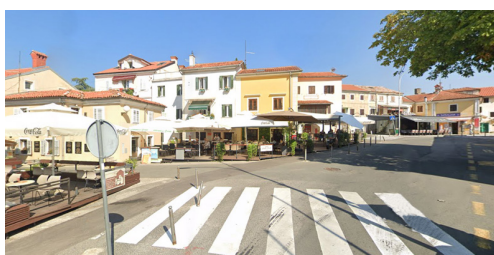


figure 15. - old city core in Trsat (activity hotspot - B)



figure 16. - old city core in Trsat (activity hotspot - B)



figure 17. - the intersection of Martina Kontuša and Kvaternikova street in Podvežica (activity hotspot - C)



figure 18. - the intersection of Martina Kontuša and Kvaternikova street in Podvežica (activity hotspot - C)





figure 19. - Kumčičeva street in Krimeja (activity hotspot - D)



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figure 26. - surroundings of the St. Ana Church in Gornja Vežica (activity hotspot - G)



figure 27. - public base connecting two high rises in Gornja Vežica (activity hotspot - H)



figure 28. - public base connecting two high rises in Gornja Vežica (activity hotspot - H)



figure 29. - commercial agglomeration near the Tower Center Rijeka in Pećine (activity hotspot - I)



figure 30. - commercial agglomeration near the Tower Center Rijeka in Pećine (activity hotspot - I)





figure 31. - Sušak Gymnasium surroundings in Bulevard (activity hotspot - J)



figure 32. - Sušak Gymnasium surroundings in Bulevard (activity hotspot - J)



figure 33. - Marohničeva street across the Art Academy in Trsat (activity hotspot - K)



figure 34. - Marohničeva street across the Art Academy in Trsat (activity hotspot - K)



figure 35. - stadium Krimeja surroundings in Vojak (activity hotspot - L)



figure 36. - stadium Krimeja surroundings in Vojak (activity hotspot - L)



figure 37. - Slavka Krautzeka street in Trsat (activity hotspot - M)



figure 38. - Slavka Krautzeka street in Trsat (activity hotspot - M)



figure 39. - Slavka Krautzeka street profile



figure 40. - example of an ad-hoc extension in the Slavka Krautzeka mixed-use area



figure 41. - dormitory buildings with exclusive rooftop areas for informal interaction



figure 42. - urban informalities as a result of user-excluding design on the University Campus



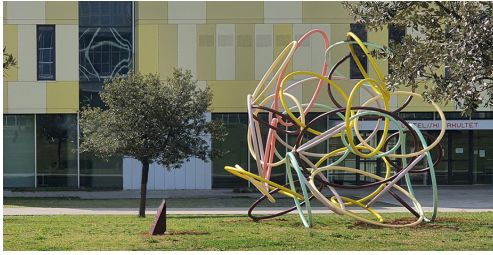


figure 43. - public space installation created by students from the Arts Academy



figure 44. - Sušak hospital complex environment



figure 45. - terrain disrupting horizontal connections between the hospital complex and the campus

### **Preliminary Considerations**

The preceding and subsequent discussions and suggestions represent impressions formed through personal reconnaissance and an examination of visible processes, supplemented by at the time available literature and strategic documents associated with specific aspects of Sušak's urban environment. These impressions are based on untested and implicit criteria. Realistic circumstances would demand explicit criteria developed from a set of relevant studies, current literature, and similar sources, in a form that is testable by users, decision-makers, and other stakeholders in order to achieve meaningful quality. These encompass a series of multidisciplinary and comprehensive studies such as historical evolution, architectural dynamics, infrastructure efficiency, demographics, economic activities, land use patterns, environmental impact, social services, cultural preservation, transportation networks, socio-spatial implications, community engagement, social structure, future development prospects, and more. Nevertheless, derived from identified shortcomings, suggestions will be made to address the acknowledged issues within the socio-spatial fabric of the Sušak plateau.

Given the specifics of the Sušak plateau, considering it in terms of two distinct areas is proposed. The first focuses on the central region, encompassing the Sušak hospital complex, University Campus, and ex-UKOD factory site. This area holds unique urban characteristics, institutional significance, and specific spatial features, making its challenges distinct from other locations on the plateau. The second extends to the surrounding areas, reaching the geographical borders of the plateau. Here, residential neighborhoods, urban clusters, scattered landmarks, and diverse typologies present a distinct set of challenges, demanding consideration in their own terms and scales. Through mapping, analyses and suggestions the project aims to address existing challenges and conditions in Sušak, providing further insights into these conditions while opening topics or orientations that could affect the mentioned acknowledged challenges in a meaningful way. The project then does not strive to become a pre-configuration of reality, but an instrument by which to generate insights.



### **Reshaping Sušak's Urban Enclaves**

The current configuration of the three enclaves comprises physically and functionally independent monofunctional entities, each demarcating a distinct area and operating as a self-contained institution within its spatial confines. The university campus and clinical center function as prominent urban attractors, fostering potential growth, while the industrial enclave hinders the comprehensive development of the entire area into a diverse and vibrant urban environment. The campus lacks well-designed public spaces, and the Sušak hospital complex prioritizes car-centric design, dominated by vehicles and parking spaces, distancing users. The industrial enclave, adhering to internal operational needs, does not necessitate public spaces and operates under a distinct rationale. The urbanism of each is characterized by an orthogonal composition juxtaposed on a sloping terrain. Instead of horizontal connections following the natural terrain contours while interconnecting the three, perpendicular links are favored, disrupting the typical flow of pedestrian movement and further contributing to the atomization of the whole.

Given the vast expanse of the ex-military zone designated for campus expansion, it is essential to recognize significant disparities in environmental and spatial characteristics across its boundaries. This complexity challenges the perception of the ex-military zone as a uniform and cohesive entity, suggesting a more appropriate understanding as a composite of distinct territories, each characterized by unique conditions. The complexities are further heightened by disparities in ownership and legal relationships. Consequently, it may be more apt to regard the northeastern space as an autonomous entity, requiring a distinct approach, rather than viewing it merely as an extension of the developed southwestern section.

Even though from the standpoint of urban planning the 'city project' as well as the university campus failed, from the strategic standpoint, the designated location where these three enclaves materialized seems to have potential. Moderately distant from the city center, in the middle of a vast residential area, close to strategic railway and highway links to the city as well as the wider region, close to the significant landmarks of the Trsat castle and its historic core, and of adequate territorial size in regard to its residential surroundings across the Sušak plateau. These conditions prove adequate for an establishment of a potentially more meaningful and larger unity - a subcenter, integrating the three enclaves into a new more urban and open condition.

In contrast to urban enclaves, subcenters offer a distinct urban paradigm with multifaceted characteristics, akin to a scaled-down central business district. Positioned strategically within urban regions, these clusters play a crucial role in redistributing urban functions, alleviating congestion, and enhancing overall urban efficiency. Operating as employment hubs, they contribute to economic diversification and enhance urban resilience. The integration of mixed-use development strategies in subcenters optimizes land utilization, fostering compact urban growth. Functioning as self-contained entities, they provide a comprehensive array of services and amenities to residents and workers, mitigating the necessity to commute to a central location for diverse activities. In essence, subcenters aim to strike a balance in urban development while serving as extensions of a city's central core.

To overcome the present challenges and support a subcenter-like structure, a shift in focus is recommended. Rather than concentrating on uphill development towards the plateau's edge, a horizontal approach places greater emphasis on establishing connections between the different enclaves. This new perspective places a heightened importance on creating robust connections between the distinct enclaves, emphasizing the fundamental principles of interconnectedness and accessibility. These principles serve as the initial prerequisites for nurturing social

interaction, elevating density and diversity, encouraging exchanges, and cultivating lively urban environments.

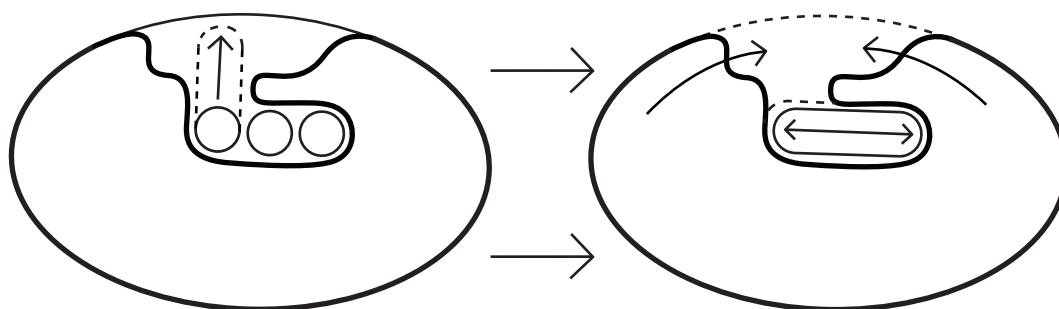


figure 33. - diagram of the formation of the subcenter and connecting of the residential fabric

This transformative shift demands a departure from the current paradigm. Instead of maintaining isolated campus environments, the focus is redirected towards nurturing innovation districts and knowledge hubs. The objective is to cultivate a collaborative atmosphere that transcends distinct enclaves. In this context, health districts emerge as the preferred model, characterized by mixed-use spaces and public accessibility, serving as an alternative to segregated clinical complexes. Furthermore, mixed-use environments are encouraged over monothematic industrial agglomerations, potentially mitigating the previously mentioned appropriation of residential ground-floors by offering suitable spaces for businesses and programs. This strategic shift not only advances the creation of a more dense and diverse urban spaces but also addresses individual area-specific challenges. Beyond the establishment of well-designed pedestrian pathways, reorienting architectural designs to be more contextually responsive, and enhancing street atmospheres to align with these developments, the integration of mixed-use elements stands as a pivotal goal.

By liberating the industrial enclave from its current programmatic constraints, it opens up the opportunity to reimagine its future purpose. This space could potentially accommodate university buildings, further reinforcing the idea of horizontal connections across the subcenter. It has the potential to introduce a third influential urban catalyst, featuring mixed-use elements that would act as a significant gravitational force, attracting the neighborhoods of Sušak and fostering connectivity between this new development and the surrounding areas. Another possibility is its transformation into a park, providing a complementary counterpart to Park Heroja on the opposite side of the campus and thereby improving the interconnection between these territories and the broader city. Alternatively, considering it as a brownfield and leveraging its industrial heritage, even if it appears to have minimal value. The area, featuring a few warehouses with inadequate spatial configuration and possible environmental pollution, requires further analysis. Nevertheless, it represents a valuable territory at the heart of the Sušak plateau.

On this note, the northeastern open area above the university could leverage the nearby university as a catalyst for growth and foster a business cluster. Realizing this potential would necessitate developing the land to be 'shovel-ready' for significant business activities by improving the infrastructure. Such clusters typically emerge in suburban or rural areas, close to existing transportation networks and human resources like large populations, universities, technical schools, and similar. Former military bases are often repurposed for such purposes. However, it's essential to note that typical urban patterning in these cases resembles industrial and commercial zones like the commercial activity hotspot located on Špinčičeva street near the Tower commercial shopping center in Pećine (I), which may not harmonize with the surroundings.



Consequently, the open plateau presents itself as more suitable for mixed-use or residential development, considering it as an extension of the surrounding residential neighborhoods. The continuation of the already consolidated urban area of Sušak enables an all-round communication network connecting the urban fabric around the enclaves, while logically building upon the existing consolidated state.

We have now addressed several crucial and generally accepted objectives that are notably influenced by the previously observed shortcomings. These objectives, aimed at addressing the challenges posed by the three urban enclaves and the creation of the subcenter can be summarized as follows:

1. Enhance urban connectivity:
  - develop pedestrian pathways following natural terrain contours to establish robust horizontal connections between enclaves.
  - prioritize contextual design principles to ensure a unified synthesis with the surrounding environment.
2. Promote mixed-use development:
  - introduce mixed-use development on the sites, with new or repurposed existing structures, fostering a diverse mix of residential, commercial, community, and recreational spaces.
3. Revitalize the ex-UKOD industrial site:
  - conduct a comprehensive analysis to identify the most suitable future purpose for the industrial enclave and explore other transformative options such as leveraging its industrial heritage.
4. Re-articulate enclaves into innovation hubs and health districts:
  - facilitate collaboration between and open up the university and health institutions by creating an integrated innovation hub and health district.
  - redesign public spaces within the campus and clinical center, emphasizing human - centered planning and minimizing car-centric design.
5. Create Inviting Public Spaces:
  - establish a network of public spaces that serves as central hubs for community engagement and interaction.
  - prioritize the development of green spaces, plazas, and communal areas to elevate the overall urban experience.

Another critical aspect that remains unresolved concerns the urban borders for the new entity encompassing the three enclaves. Should these borders strictly align with surrounding streets or organically extend, similar to the few campus buildings across the street? Proposed borders include University Avenue (northwest), Vjekoslav Dukić street (northeast), the railway (east), and Slavko Krautzek Street/Martin Kontuša street (southwest). It's crucial to note that these suggested borders are not fixed; the possibility of organic extension is open if it contributes constructively to the urban landscape.

### **Revitalization of The Sušak Residential Area**

Opposed to the three enclaves, stands the whole of the residential areas. As a result of complex urban conditions across the plateau, the overall urban quality across the Sušak plateau is gradually declining, marked by informal appropriations of public spaces and residential facilities, alongside systematically substandard developments that fragment the urban and social landscape. The current spatial

strategy concerning 'microcenters', 'urban axis' and 'city project' doesn't seem to address the urban conditions of Sušak in a meaningful way. Urban activity across Sušak mostly unfolds in emergent activity hotspots which evolved in proximity to one or more public institution or landmarks and common points of transit as bus stops, and similar. These spaces hosting urban activity, varying in both density and diversity, often lack intentional planning, support from zoning regulations or adequate urban conditions and infrastructure. Furthermore, the public programs within are frequently housed in suboptimal structures and lack a meaningful connection to the streets and their immediate surroundings. These areas experience a disconnect with the broader neighborhood and grapple with a shortage of public spaces and other cohesive elements that could effectively define and characterize the area. In instances where open spaces exist, they tend to predominantly manifest as parking lots.

A city's character is fundamentally shaped by its urban activity hubs, main thoroughfares, primary open spaces, and the quality of its residential areas, which serve as the backdrop for these defining features. The appeal and functionality of these activity centers proves very important, symbolizing the essence of the city as they are experienced by the majority. In contrast to deliberate top-down planning seen in urban gestures, microcenters, and city projects, these clusters exemplify bottom-up phenomena, organic hubs where Sušak's urban life unfolds. Sušak benefits from these spots of various size and function. By enhancing the visual characteristics and distinctness of these activity centers, improving their accessibility and introducing well-defined open spaces, they would become the visual foci of the Sušak plateau just as they are now its functional foci.

Considering Sušak's historical, topographic, and other distinctiveness, any spatio-conceptual elements aimed at engaging with the urban fabric should be contextually derived. Within this framework, microcenters emerge as a feasible typology, from now on named 'neighborhood centers', in this way conveying their purpose, scale and reach while emphasizing their programmatic alignment with the affirmation of Sušak's residential fabric. Due to their compactness, openness to programming, mixed-use potential and clear centrality, neighborhood centers could effectively address the ongoing challenges in Sušak's residential neighborhoods, such as informal appropriation of structures and a lack of coherent public and common urban spaces. Their compact nature is pivotal in Sušak's consolidated urban fabric and complex topography, contrasting with broader and more dispersed spatio-conceptual elements like 'urban axes,' which tend to fragment rapidly in Sušak's intricate urban and topographical conditions.

Strategic, small-scale interventions like neighborhood centers present a practical and incremental method for improving Sušak's urban quality. Serving as focal points for social inclusion and neighborhood cohesion, this strategy prioritizes planning, assessing, and enhancing emergent activity hotspots and planned microcenters. The historical absence of complementary facilities and public spaces in Sušak underscores the significance of well-connected and inclusive neighborhood centers. Supported by main roads and pathways, this network meets neighborhood necessities, reinforcing Sušak's overall cohesion. Additionally, it alleviates pressures on the city center and addresses the consequences of lacking complementary programs and public spaces, contributing to a more connected and vibrant community. In combination with the subcenter, the resulting polynuclear field aims to create a continuous and robust urban fabric while engaging with the dispersed public programs across the plateau. These nodes (the subcenter and the neighborhood centers) should naturally advance the urban development of Sušak while concurrently aiming to elevate the overall urban quality of the entire region. The creation of this system is crucial, as it signifies the revitalization of the Sušak residential area by means of a coherent polynuclear urban field.

A number of objectives have been articulated to address the challenges arising from the gradual urban decline of Sušak's residential areas and the establishment of a network of nodes. These can be summarized as follows:

1. Establish a distributed network of neighborhood centers:
  - utilize existing activity hotspots and planned microcenters to create a well-distributed network of neighborhood centers.
  - strategically position new neighborhood centers in key locations to enhance urban integration.
2. Enhance visual and functional characteristics of urban activity clusters:
  - evaluate and strengthen the visual and functional aspects of existing and emerging urban activity clusters, morphing them into neighborhood centers.
  - clarify entries and connections, provide internal open spaces, and differentiate the visible characteristics of these clusters.
3. Develop a communication network:
  - recognize and establish a communication network interconnecting neighborhood centers, the new subcenter, and the historic Sušak center (now a gateway to the central area of Rijeka).
  - strengthen connections to facilitate movement and interaction between these urban nodes.
4. Integrate the subcenter into the Sušak plateau and the resulting polynuclear field:
  - ensure them integration of the new subcenter into the Sušak plateau.
  - position the subcenter as a pivotal node within the proposed polynuclear field.
5. Meaningful integration of new developments:
  - integrate potential developments of the northeastern open area into the broader urban context.

In the assessment of neighborhood center's appropriate size and location, important factors include its scale of influence, population density, social structure, spatial adequacy, the presence of potential and existing transportation and pedestrian connections, and more. Furthermore, it is important to consider an additional dimension, such as exceptional views or a unique ambient quality, capable of meaningfully characterizing a neighborhood center independently of well-designed urban spaces, adequacy of the programmatic range, and the location of public transportation stops. Consequently, the legitimacy of spontaneously emerged urban activity hotspots is subject to scrutiny, given their perceived lack of integrity arising from these considerations. Nevertheless, their existence provides valuable insights and noteworthy indicators, guiding further exploration into the Sušak plateau.

Furthermore, addressing the issue of inadequate conditions for small businesses in residential ground-floors would involve encouraging relocation to new neighborhood centers through zoning enforcement, tax incentives, community engagement, and financial support, aiming for improved overall urban quality.



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### Graphic Material Breakdown:

The graphic material is printed on semi-transparent tracing paper, intentionally chosen to facilitate a thorough analysis of the urban conditions and dynamics across the Sušak plateau. This choice of media allows for the seamless overlay of diverse information, creating a visual dialogue that juxtaposes various elements influencing the urban environment. Through this nuanced and complex interplay of layered information, the graphic material remains open to investigation and interpretation, encouraging exploration amid the tensions inherent in the different layers. For example, the juxtaposition of the A.6 Zoning Regulations map, illustrating current zoning laws, and the B.1 Urban Activity Analysis map may reveal discrepancies between existing regulations and the actual conditions across the plateau. Similarly, juxtaposing the A.2 Neighborhoods map with the A.5 Height Analysis map offers a preliminary understanding of the density and spatial characteristics of distinct neighborhoods comprising the area in question. (fig. 34)

The initial set of graphic material (A) illustrates specific layers of the Sušak plateau, strategically chosen to facilitate a focused examination of urban conditions and dynamics, particularly in relation to the programming of activities within the urban environment. Because of this intentional selection, other important elements across the plateau, as for example green systems, are excluded. Nevertheless, their impact is important, as urban environments are constituted out of a multiplicity of simultaneously occurring processes, patterns and elements. It is important to acknowledge this limitation when utilizing the material and drawing conclusions from the data. The data itself results from a compilation of existing materials, on-site reconnaissance, Google Maps surveys, and other relevant sources, presenting a level of reliability that may be compromised due to certain aspects of the urban environment undergoing acute or gradual changes, as for example zoning regulations across the plateau.

The second set of graphic material (B) represents a four-step synthesis process of the information gathered from the previous set, further combined with on-site reconnaissance, available literature, and other sources of information relevant to the topic in question. These operate on a higher level of complexity, since they represent insights, conclusions and suggestions derived from the first set of maps as well as other sources.

B.1 Urban Activity Analysis, provides a visual representation of elements influencing urban activity and its hotspots across the Sušak plateau. These include main communication networks (major streets and railways), areas of higher urban activity (activity hotspots and sections of streets with higher activity) and other elements and areas positively or negatively affecting urban activity (bus stops, commercial



agglomerations, continuous public ground-floor frontage, urban enclaves, cultural or programmatic landmarks and urban sprawl).

B.2 Urban Condition Evaluation, presents a critical evaluation of the quality of areas influencing urban activity across the plateau. These are crucial as they form the basis for the subsequent set of actions addressing the identified drawback and inconsistencies throughout the study. However, they are based upon untested and implicit criteria, and are derived from personal impressions and conclusions formed while dealing with the topic. As such, they operate on a conceptual level and simultaneously serve as a visual commentary, open to interpretation, as well as further refinement. For example, these include observations such as a lack of adequate public spaces, microclimate issues, poor connection to surroundings, and more.

B.3 Improvement Suggestions, outlines a specific set of recommendations designed to address the identified issues and inconsistencies throughout the study. These proposals aim for a comprehensive revitalization of the residential zones across the Sušak plateau and the establishment of a subcenter encompassing the three urban enclaves, ultimately enhancing the urban quality across the entire plateau. These include suggestions such as the introduction of mixed-use, robust horizontal pedestrian connections, providing of urban conditions, reconfiguring existing activity hotspots into neighborhood centers, strategically placing new neighborhood centers at the borders between designated developments and existing residential areas to facilitate urban integration, and more.

B.4 Polynuclear Field Synthesis, visually depicts the resultant urban network structured as a polynuclear field. This network comprises interconnected neighborhood centers and a subcenter, creating a unified system linked to the historic center of Sušak, serving as the entrance to the broader city center of Rijeka. The proposed urban network aims to elevate the overall urban quality of the plateau, addressing identified shortcomings while simultaneously alleviating the strain on the Rijeka city center. It is essential to note that the proposal remains purely conceptual, intended not as a predefined configuration of reality but as a tool for generating insights and ideas.

The third set of graphic material (C), addresses the limits of the digital media in relation to physical semi-transparent media. Consequently, it digitally overlays essential information layers from the aforementioned graphics to offer digital readers the opportunity to engage with the material seamlessly.



figure 34. - example of the printed and overlayed graphic material on semi-transparent paper



## Author Biography

Mateo Zonta, M.Arch., was born in 1996 in Pula. After completing high school (Technical School Pula, architectural technician program) in 2014, he enrolled in the integrated university study of architecture at the Faculty of Architecture, University of Ljubljana. In December 2020, he earned the title of Master in Architecture.

From 2016 to 2020, he worked and collaborated with architectural studios Luk+arhitekti, MAU studio, and zadruga Praksa. As a result of a winning project at the international and interdisciplinary workshop "Comprehensive Transformations of the Region with Wooden Constructions," organized by proHolz Austria in 2018, he completed an internship at the architectural studio Gangoly & Kristiner Architekten in Graz. During the academic year 2018-2019, he served as a student assistant for the course Architectural Design 1 at the Faculty of Architecture, University of Ljubljana. In 2019, in collaboration with the architectural studio Void arhitektura, he won the first prize in the architectural-urban competition for the city cemetery in Ankaran, Slovenia. Since, he continues to collaborate with the same studio, working on projects of various scales, mostly public and social use, participating in all stages of the design process.

Since 2018, he has participated in various collaborations on about twenty international and national architectural-urban competitions, winning fifteen awards and recognitions, including the first prize for the new city market in Slovenj Gradec, the first prize for the renovation and extension of the city library in Škofja Loka, and the first prize for the city cemetery in Ankaran, Slovenia. In 2022, he enrolled in the interdisciplinary university postgraduate study Urban Studies at the University of Rijeka, and since February 2023, he has the status of a cultural worker, based in Ljubljana. He is fluent in Croatian, English, and Slovenian and has passive knowledge of the Italian language.

## Biografija autora

Mateo Zonta, mag. ing. arh. rođen je 1996. godine u Puli. Nakon završene srednje škole (Tehnička škola Pula, smjer arhitektonski tehničar) 2014. godine, upisuje integrirani sveučilišni studij arhitekture na Arhitektonskom fakultetu Sveučilišta u Ljubljani, te u prosincu 2020. godine stječe zvanje magistra inženjera arhitekture.

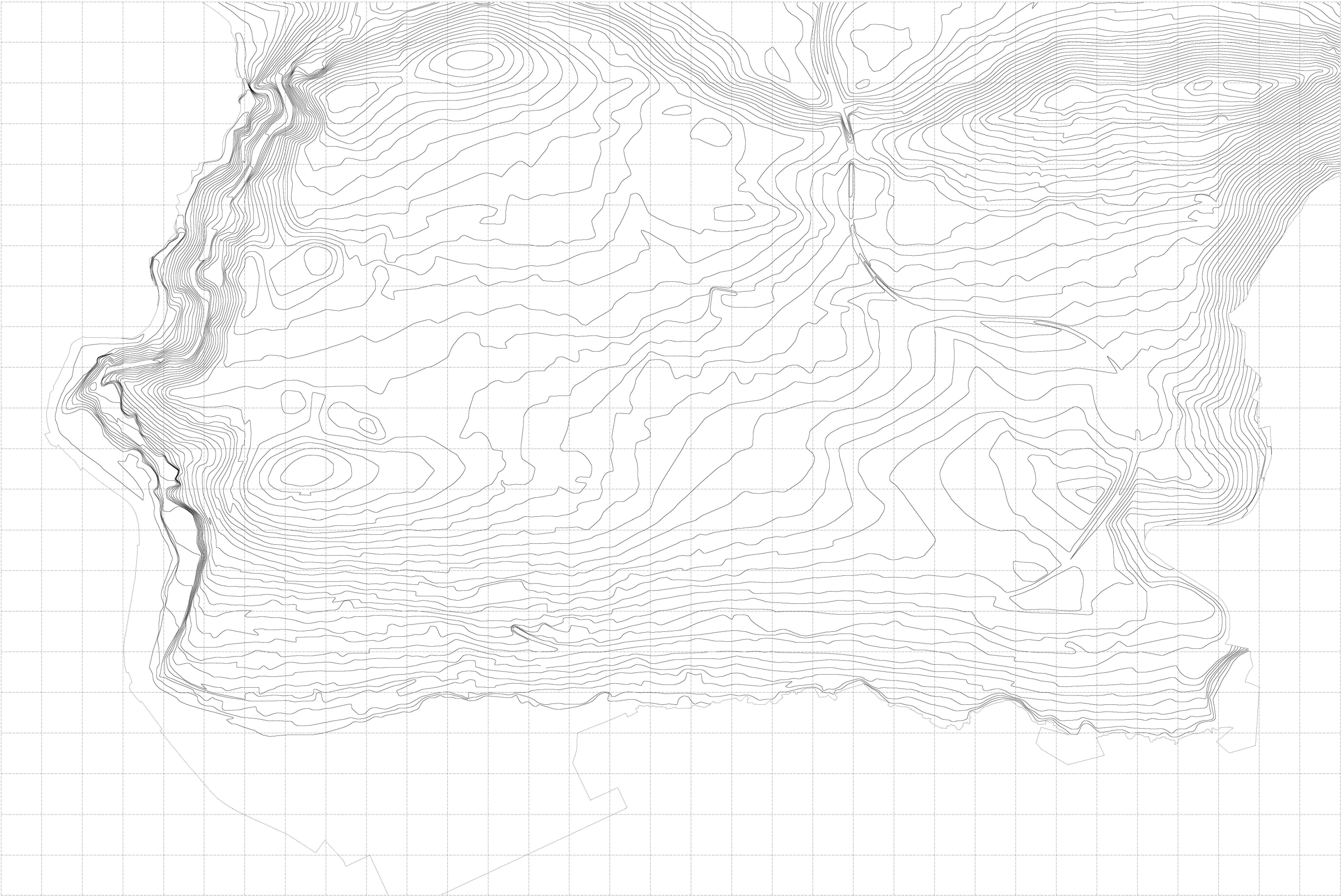
Od razdoblja od 2016. do 2020. radi i surađuje s arhitektonskim studijima Luk+arhitekti, MAU studio i zadruga Praksa, te povodom pobjedničkog projekta na međunarodnoj i interdisciplinarnoj radionici "Sveobuhvatne transformacije regije drvenim konstrukcijama" u organizaciji proHolz Austrija, 2018. godine stažira u arhitektonskom studiju Gangoly & Kristiner Architekten u Grazu. Tijekom akademske godine 2018. - 2019. obavlja dužnost studenta asistenta na kolegiju za Arhitektonsko oblikovanje 1, na Arhitektonskom fakultetu Sveučilišta u Ljubljani. Godine 2019., u suradnji s arhitektonskim studijom Void arhitektura, osvaja prvu nagradu na arhitektonsko-urbanističkom natječaju za gradsko groblje u Ankaranu, Sloveniji. S istim studijom nastavlja suradnju do danas, radeći na projektima različitih mjerila, uglavnom javne i društvene namjene, sudjelujući u svim fazama projektiranja.

Od 2018. godine sudjeluje u raznim suradnjama na dvadesetak međunarodnih i državnih arhitektonsko-urbanističkih natječaja te osvaja petnaestak nagrada i priznanja, među kojima su: prva nagrada za novu gradsku tržnicu u Slovenj Gradecu, prva nagrada za obnovu i dogradnju gradske knjižnice u Škofji loki, te prva nagrada za gradsko groblje u Ankaranu, Sloveniji. Godine 2022. upisuje interdisciplinarni sveučilišni specijalistički studij Urbani studiji na Sveučilištu u Rijeci, dok od veljače 2023. godine ima status radnika u kulturi sa sjedištem u Ljubljani. Aktivno govori i piše na hrvatskom, engleskom i slovenskom jeziku, te se pasivno služi talijanskim jezikom.



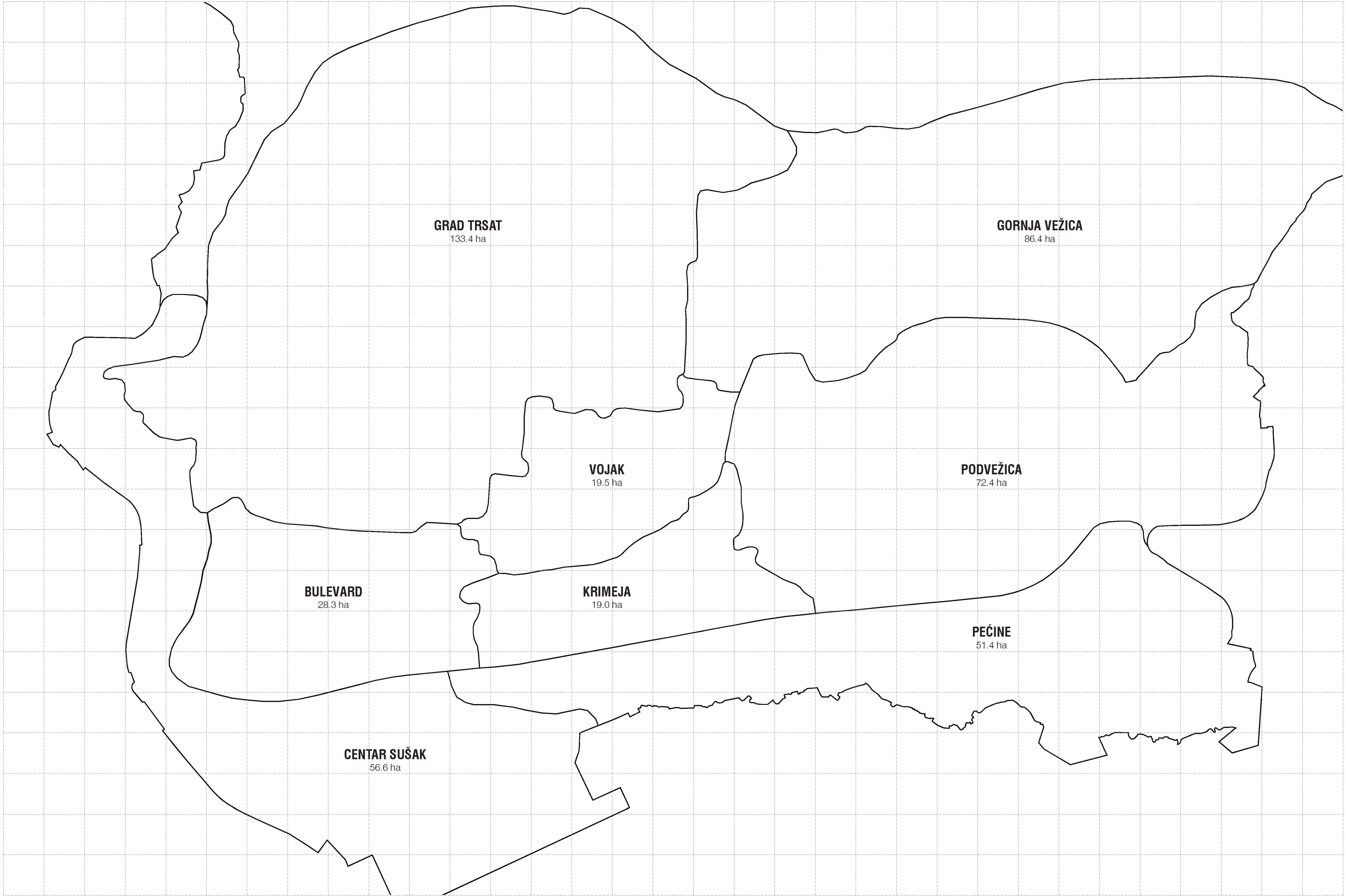


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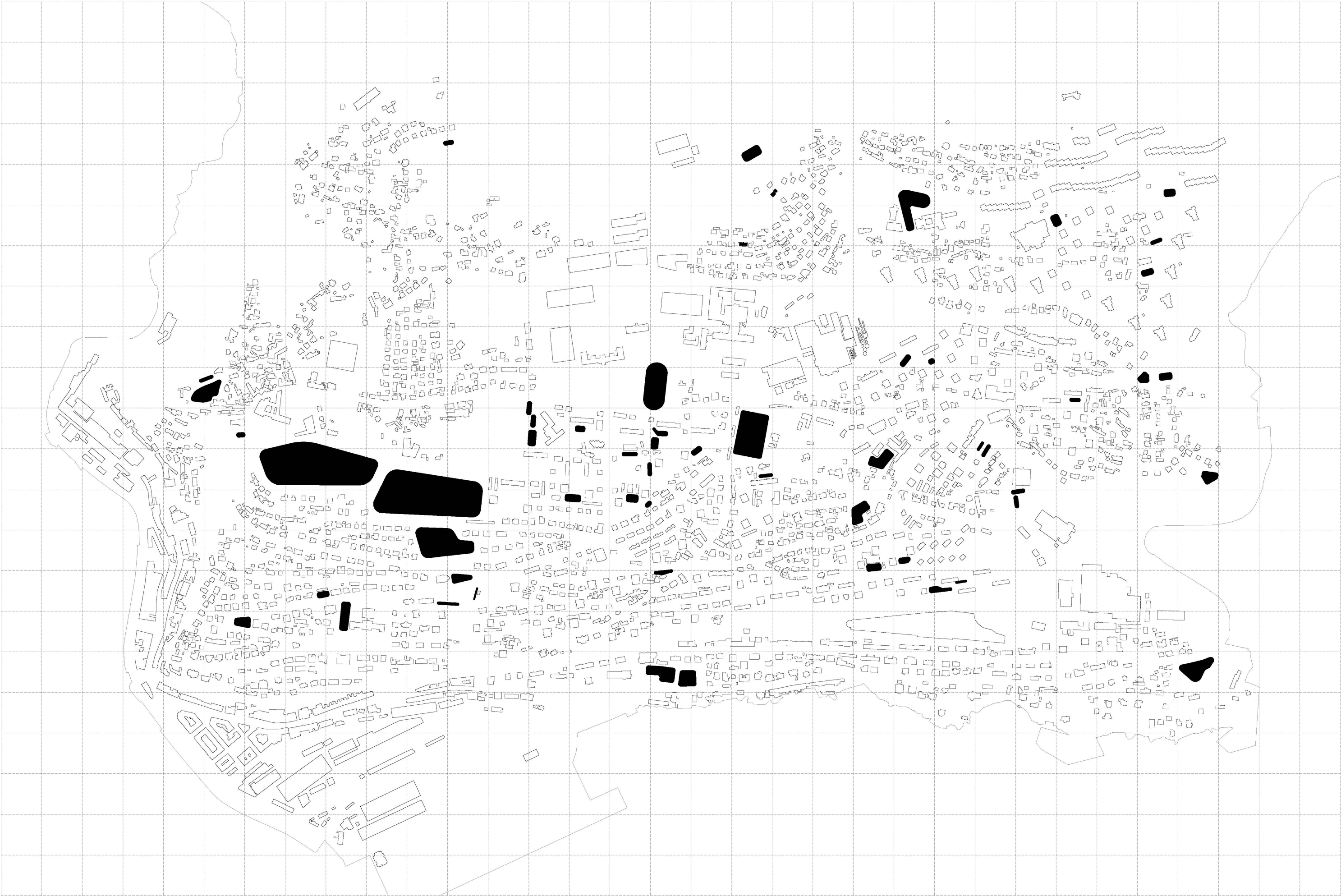
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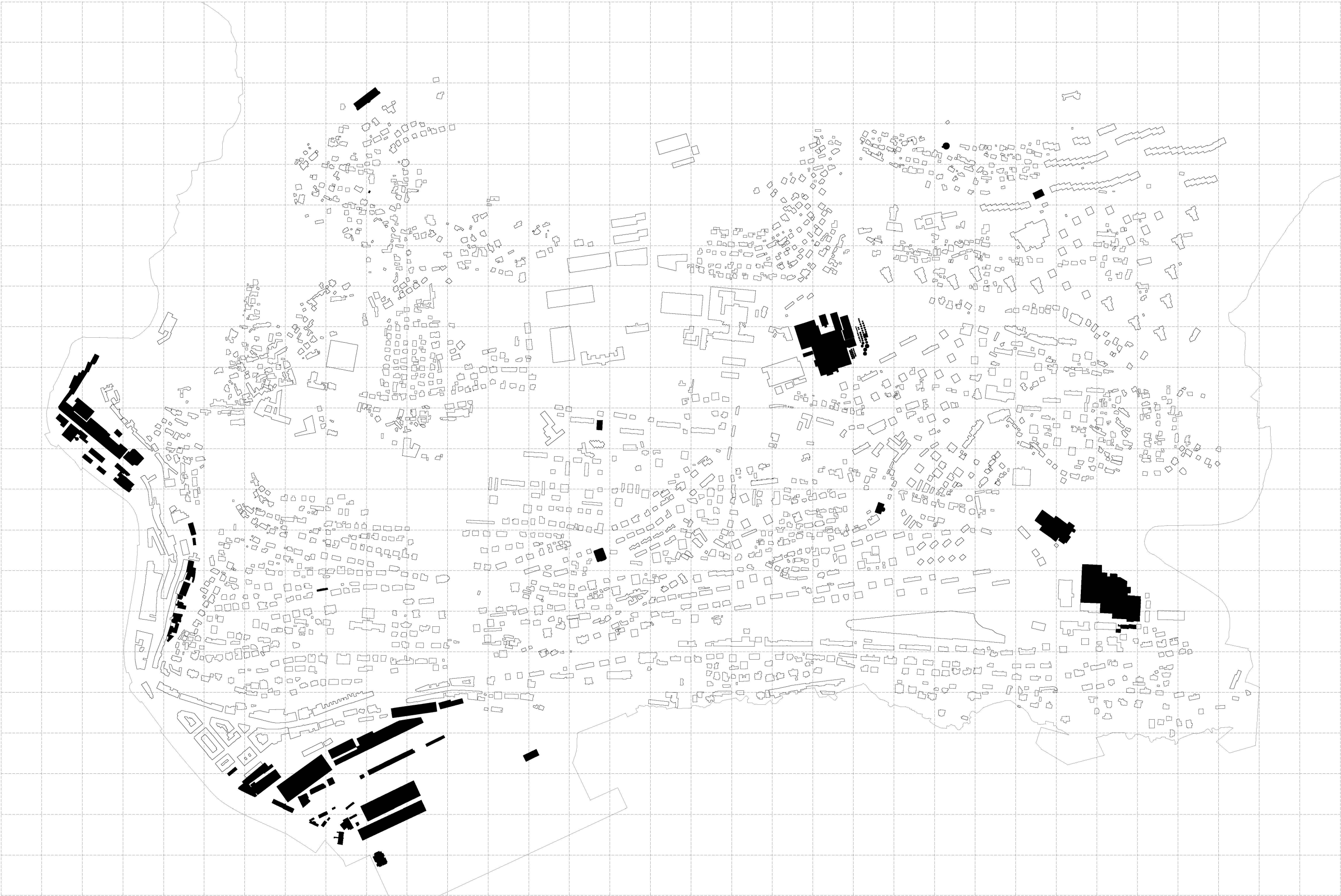
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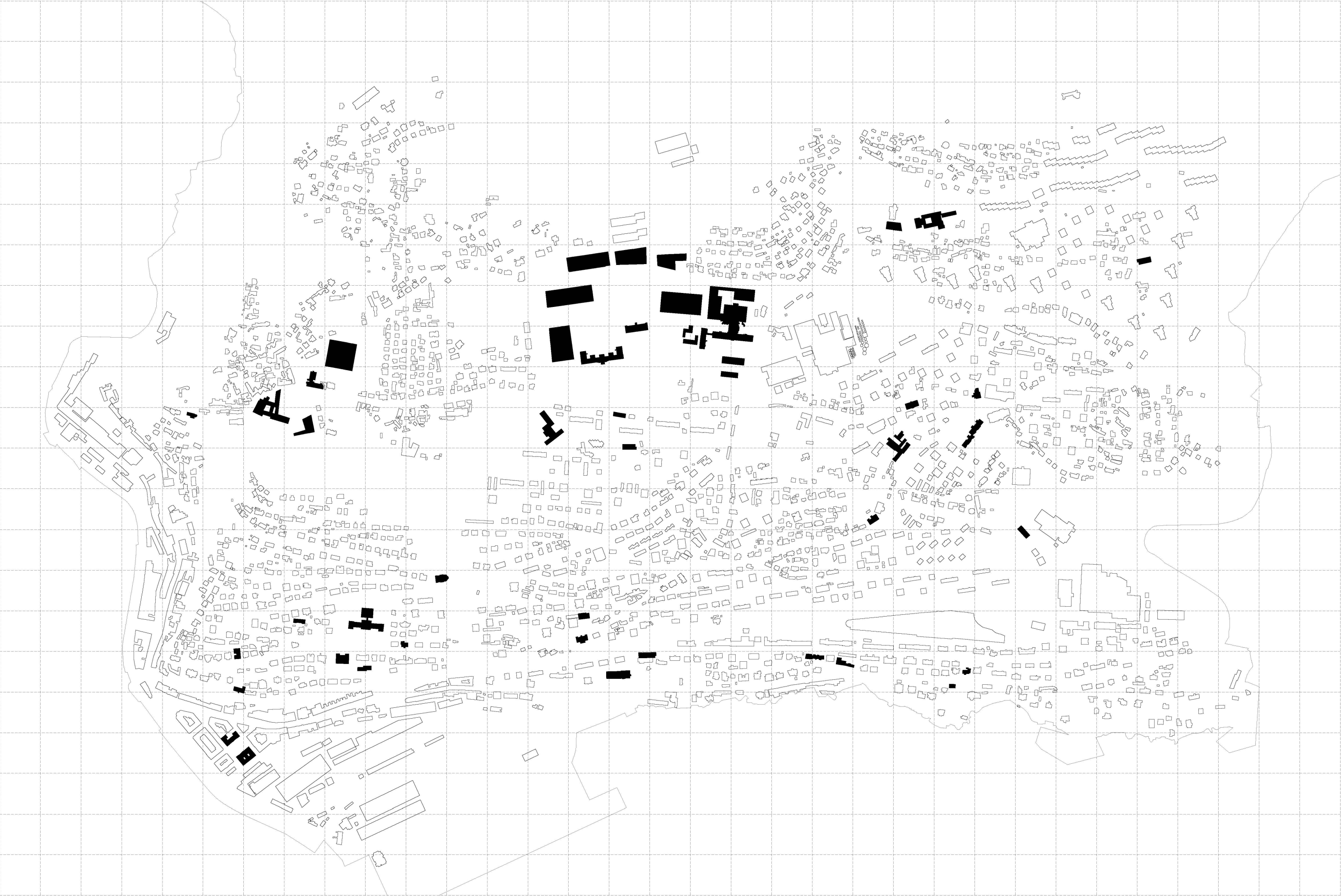
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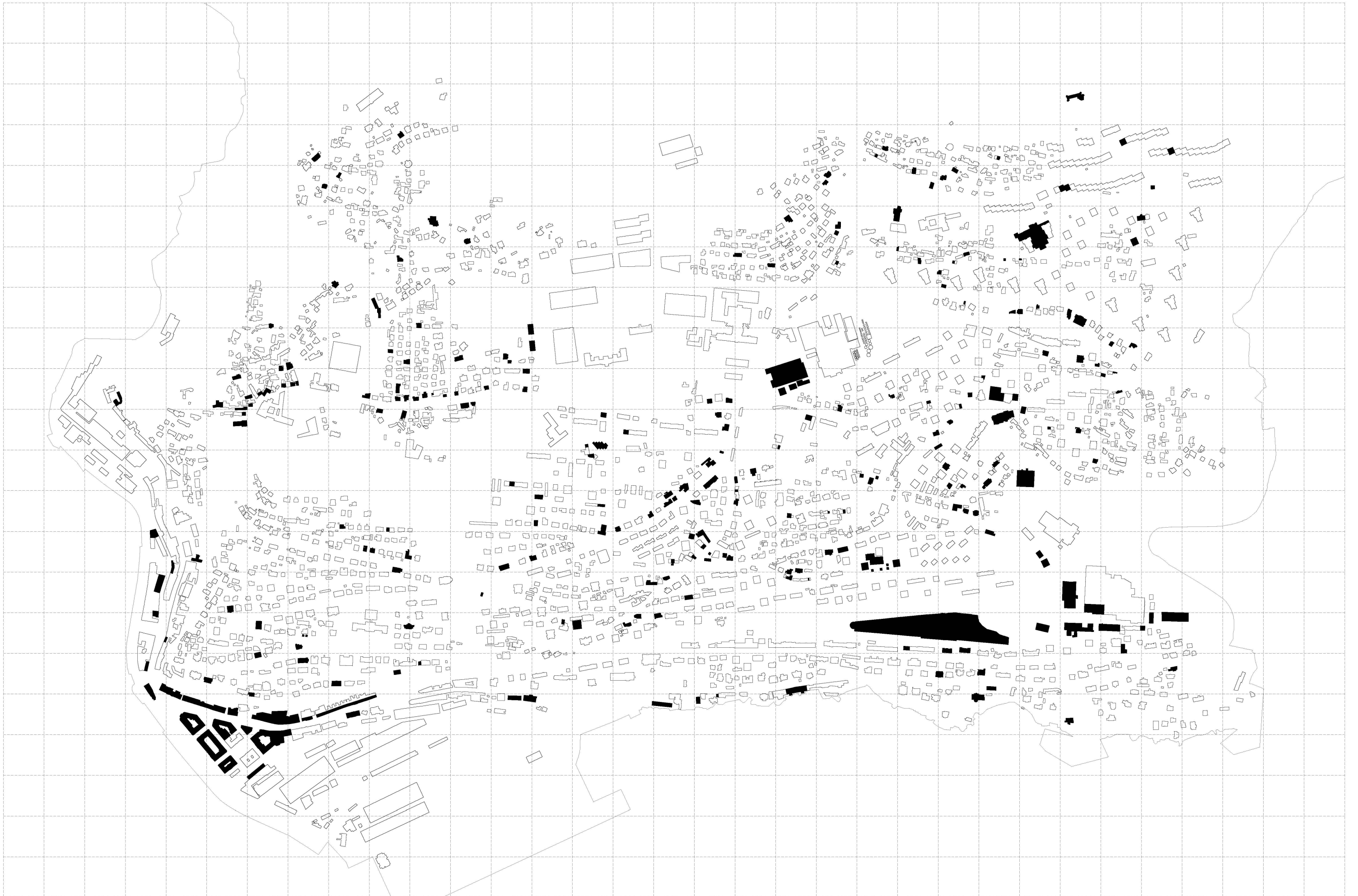


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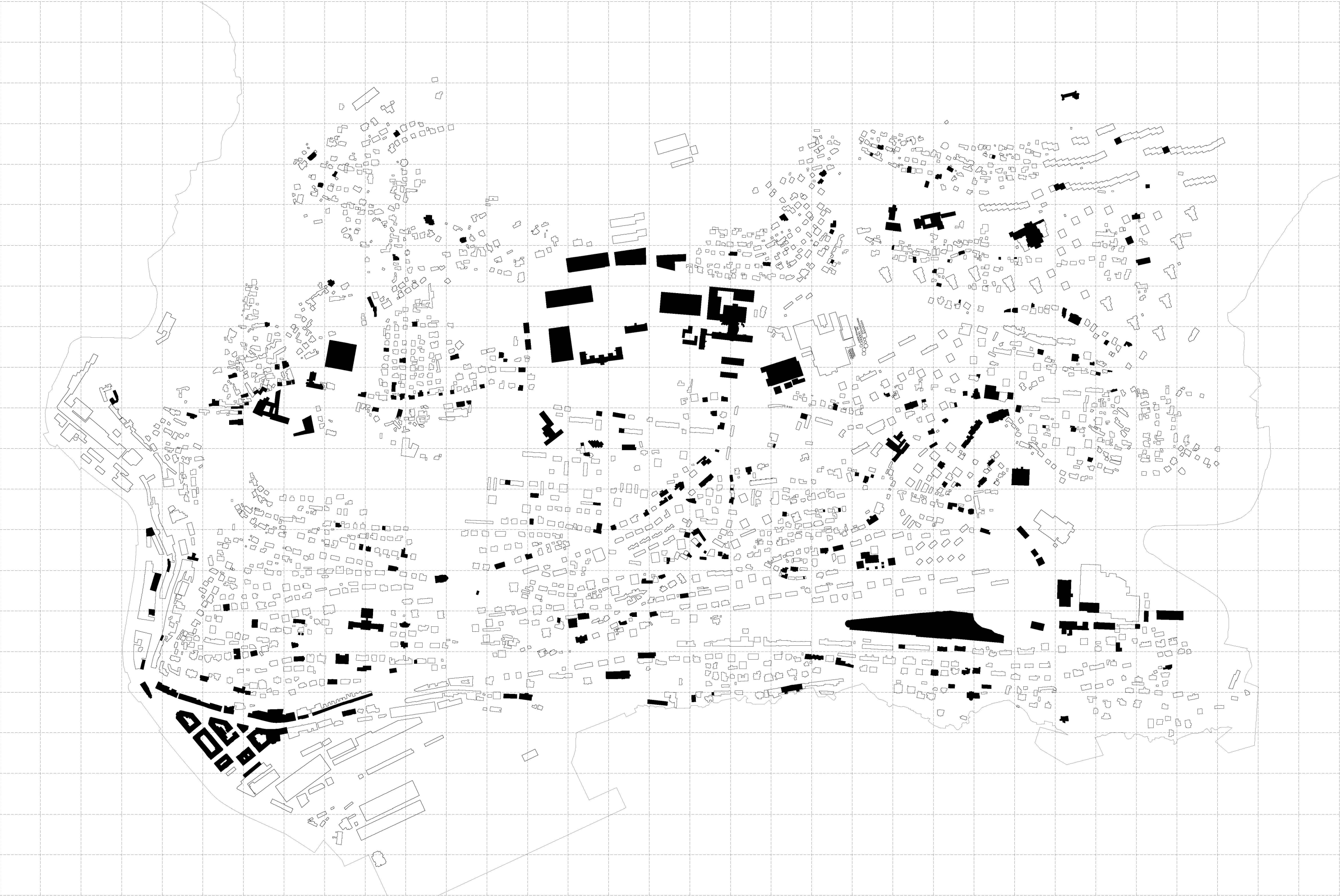
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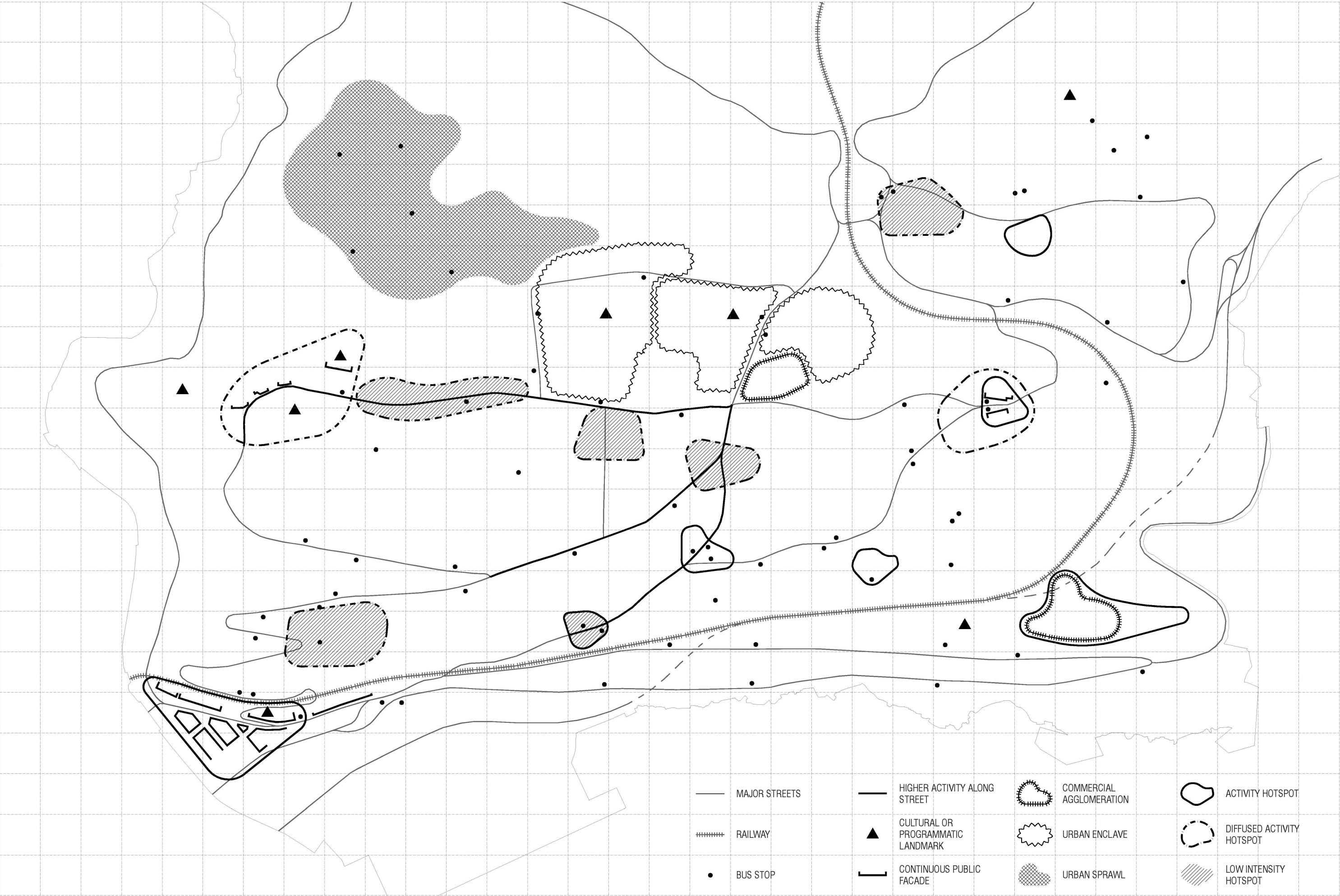


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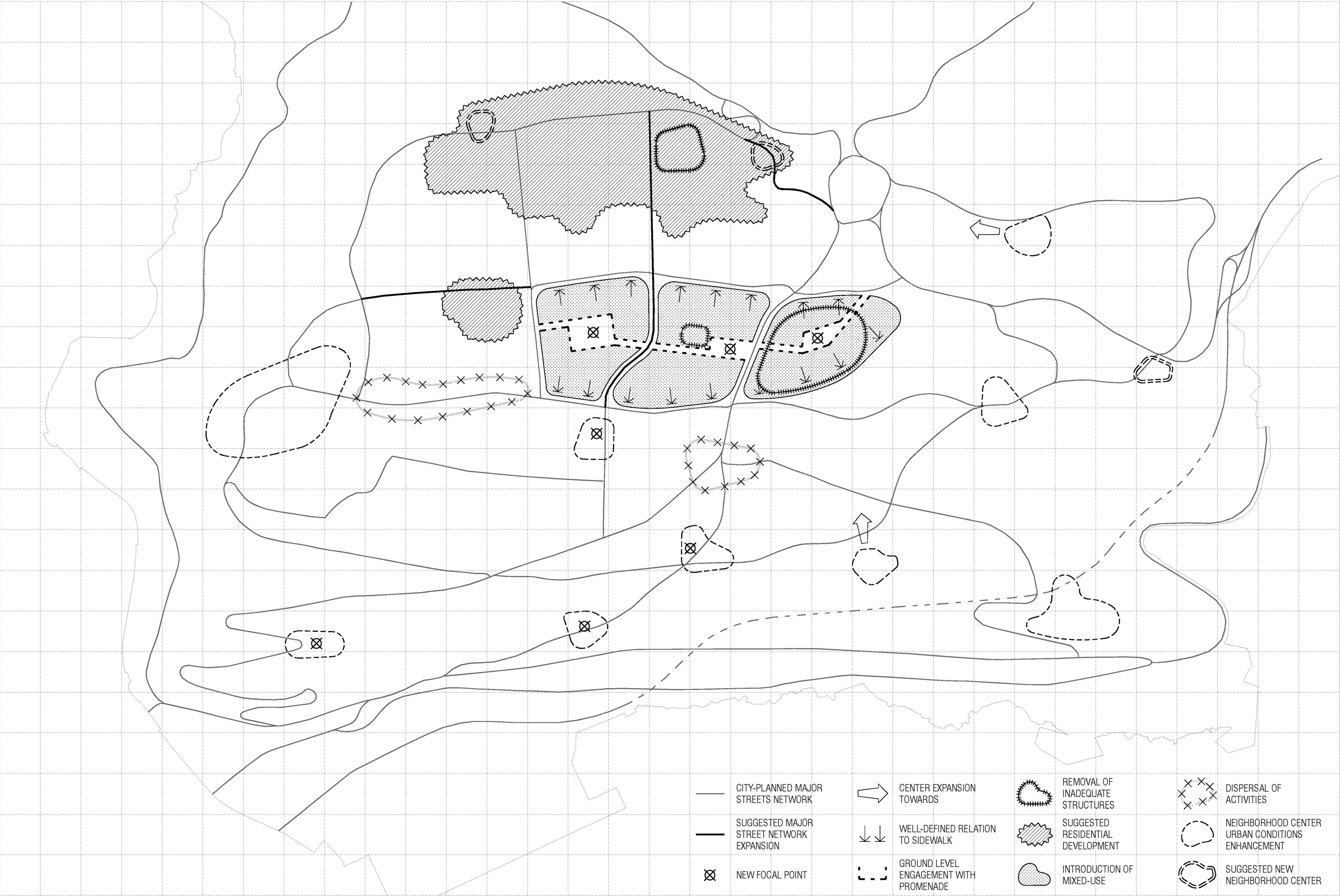


The map illustrates a neighborhood layout with various urban planning issues. The legend defines the symbols used:

- MAJOR STREETS NETWORK**: Represented by solid lines.
- LACKING SIDEWALK CONNECTION**: Represented by two downward arrows.
- AMBIGUOUS ENTRY POINT**: Represented by two wavy lines.
- COMPROMISED CONNECTION TO SURROUNDINGS**: Represented by a large arrow pointing right.
- AREA LACKS WELL-DEFINED PUBLIC SPACE**: Represented by a star symbol.
- POOR GROUND-FLOOR RELATION TO SURROUNDINGS**: Represented by a bracket symbol.
- DUBIOUS AREA**: Represented by a cloud-like shape.
- NO SENSE OF LOCATION**: Represented by a starburst shape.
- LIMITED CHOICE IN ENVIRONMENT**: Represented by a dotted circle.
- INADEQUATE REST AND SHELTER**: Represented by a dashed circle.
- AREA HAS MICROCLIMATE ISSUES**: Represented by a dashed line.
- AREA OR CENTER LACKS IDENTITY**: Represented by a hatched area.

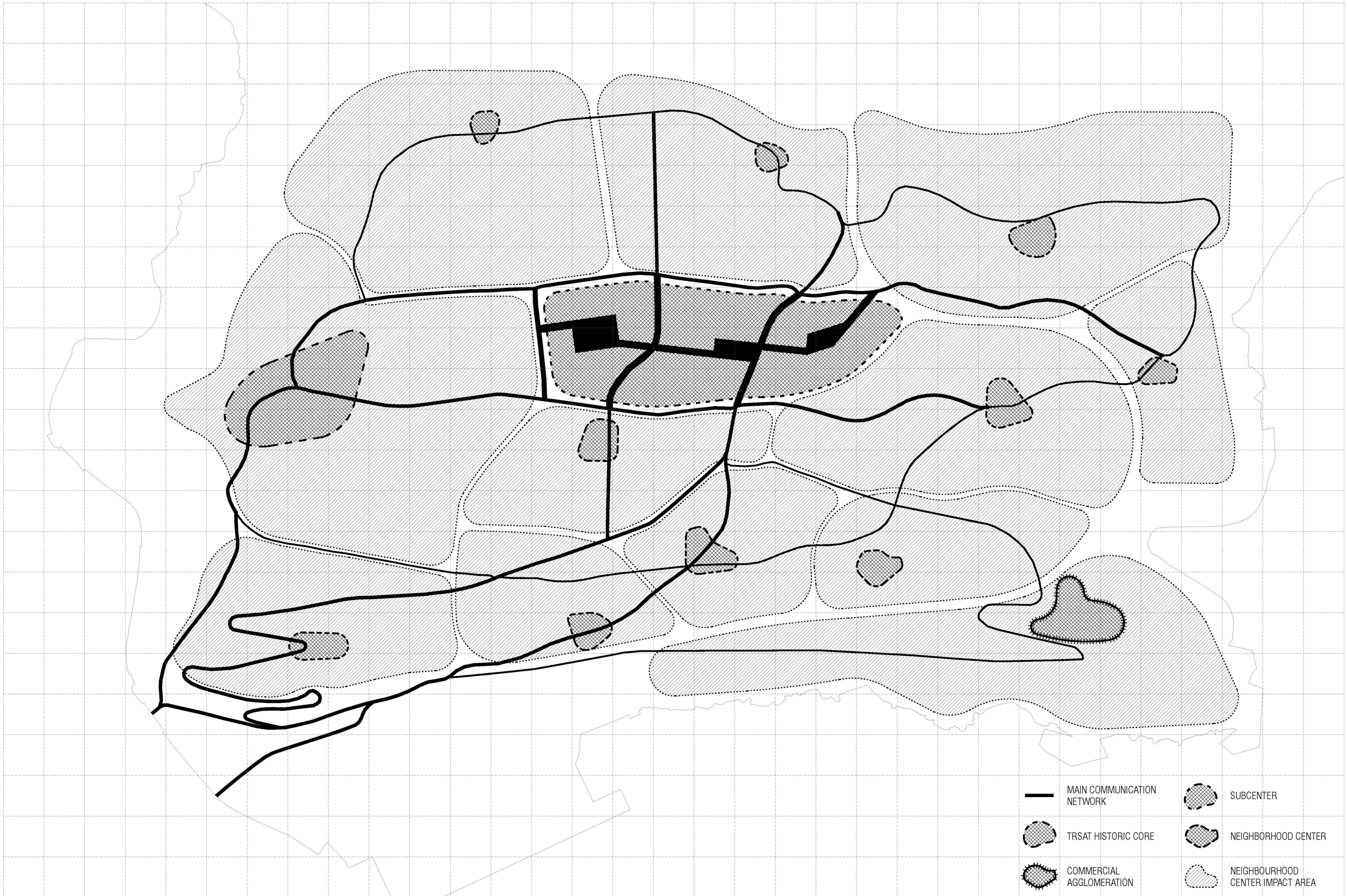


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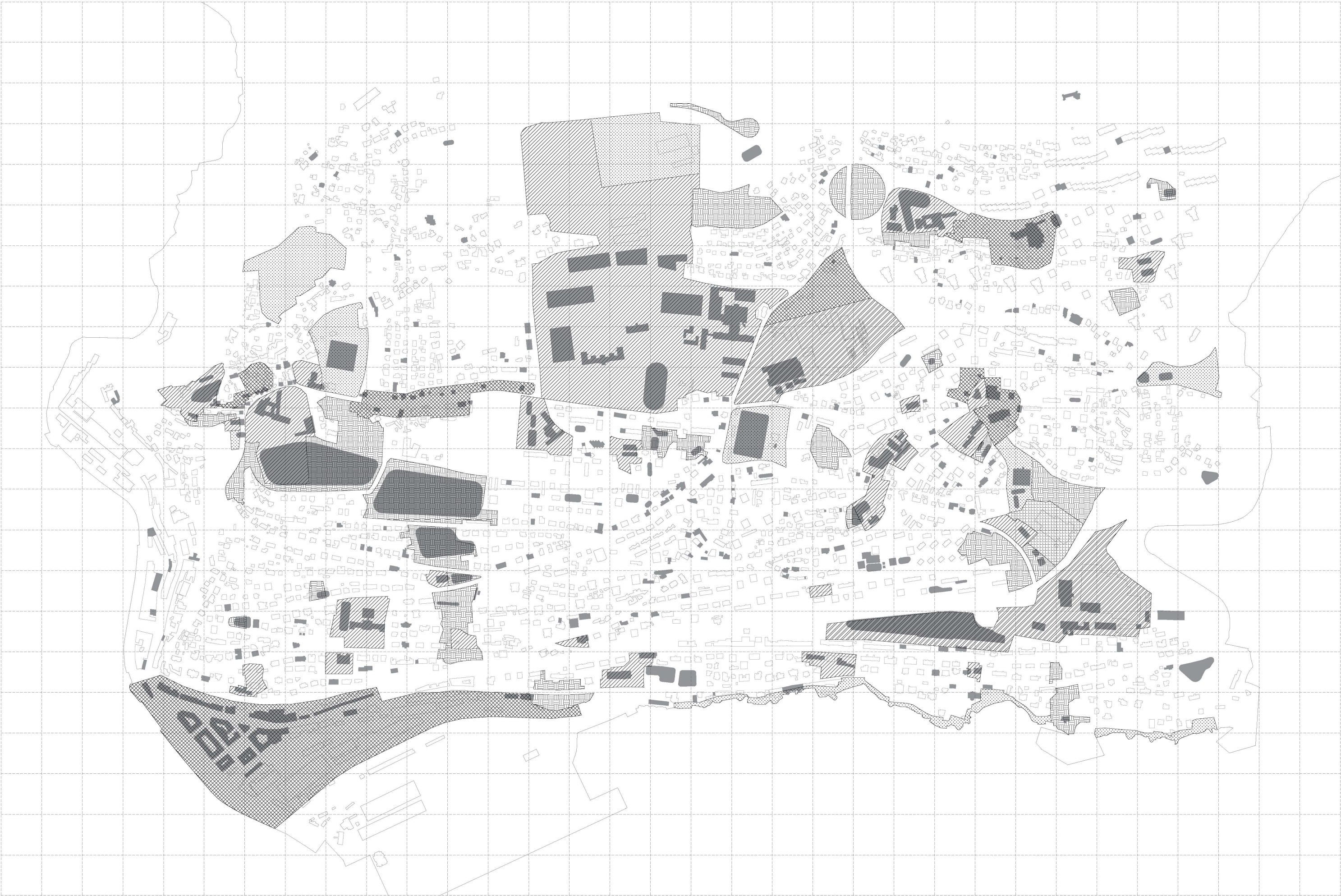
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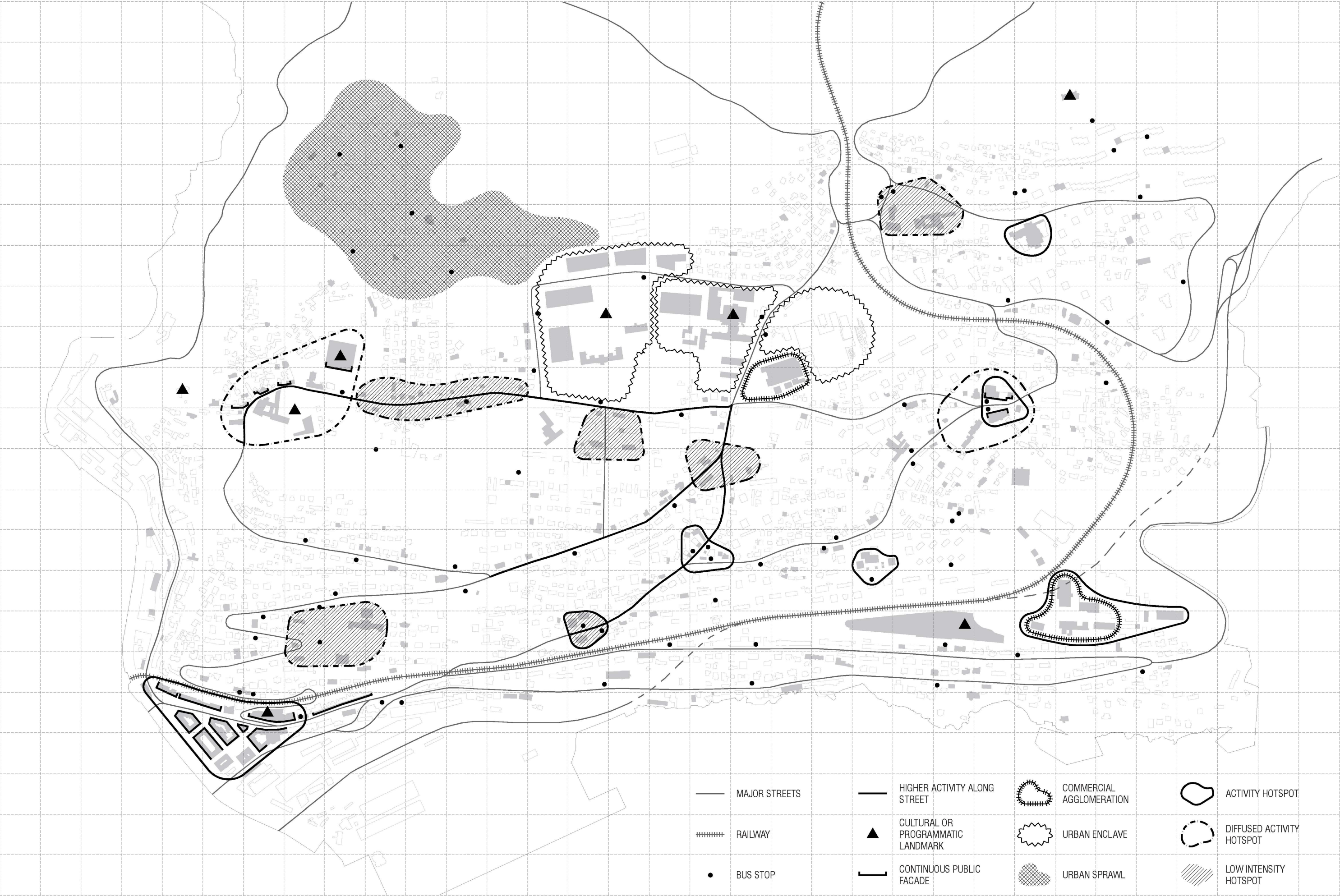


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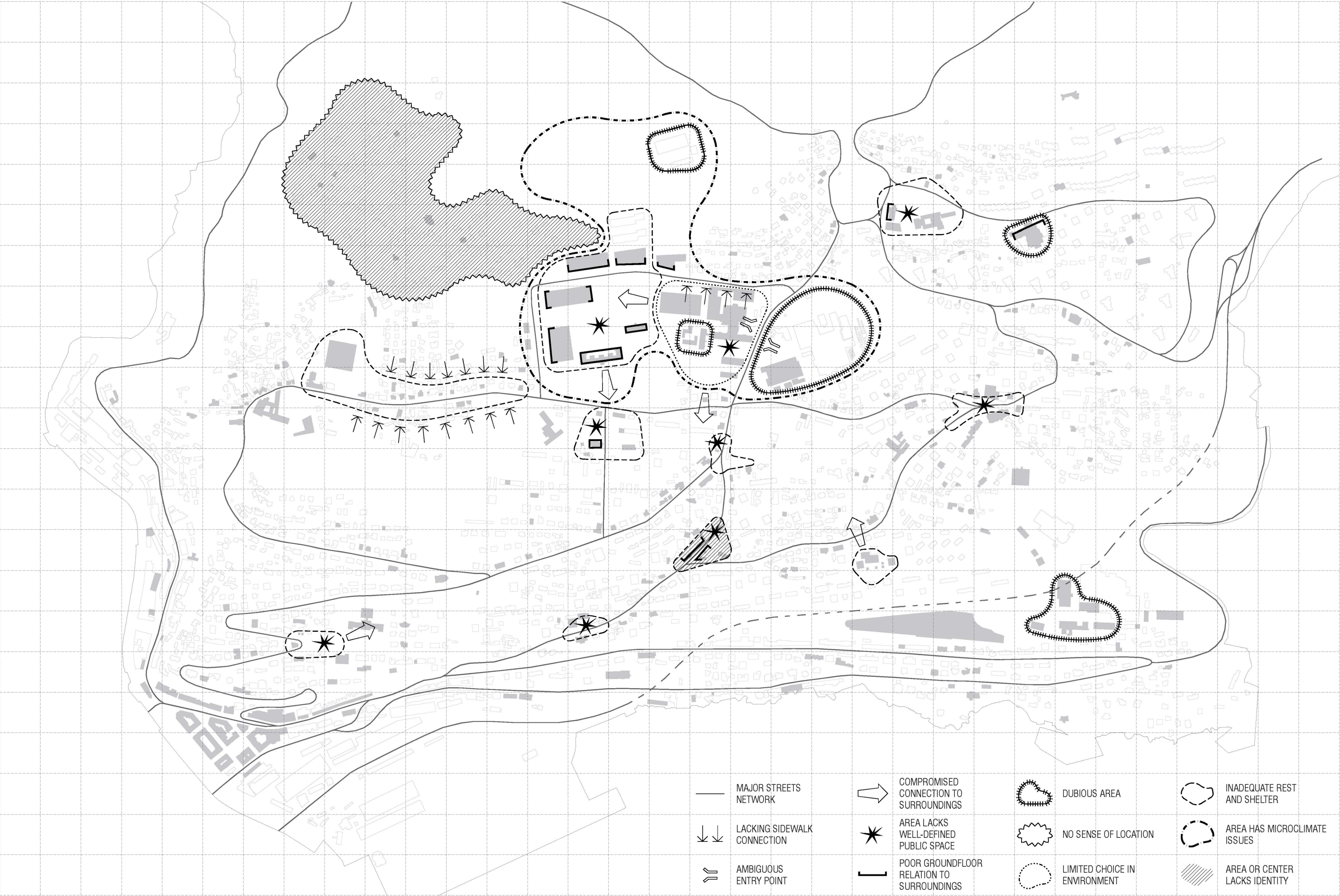


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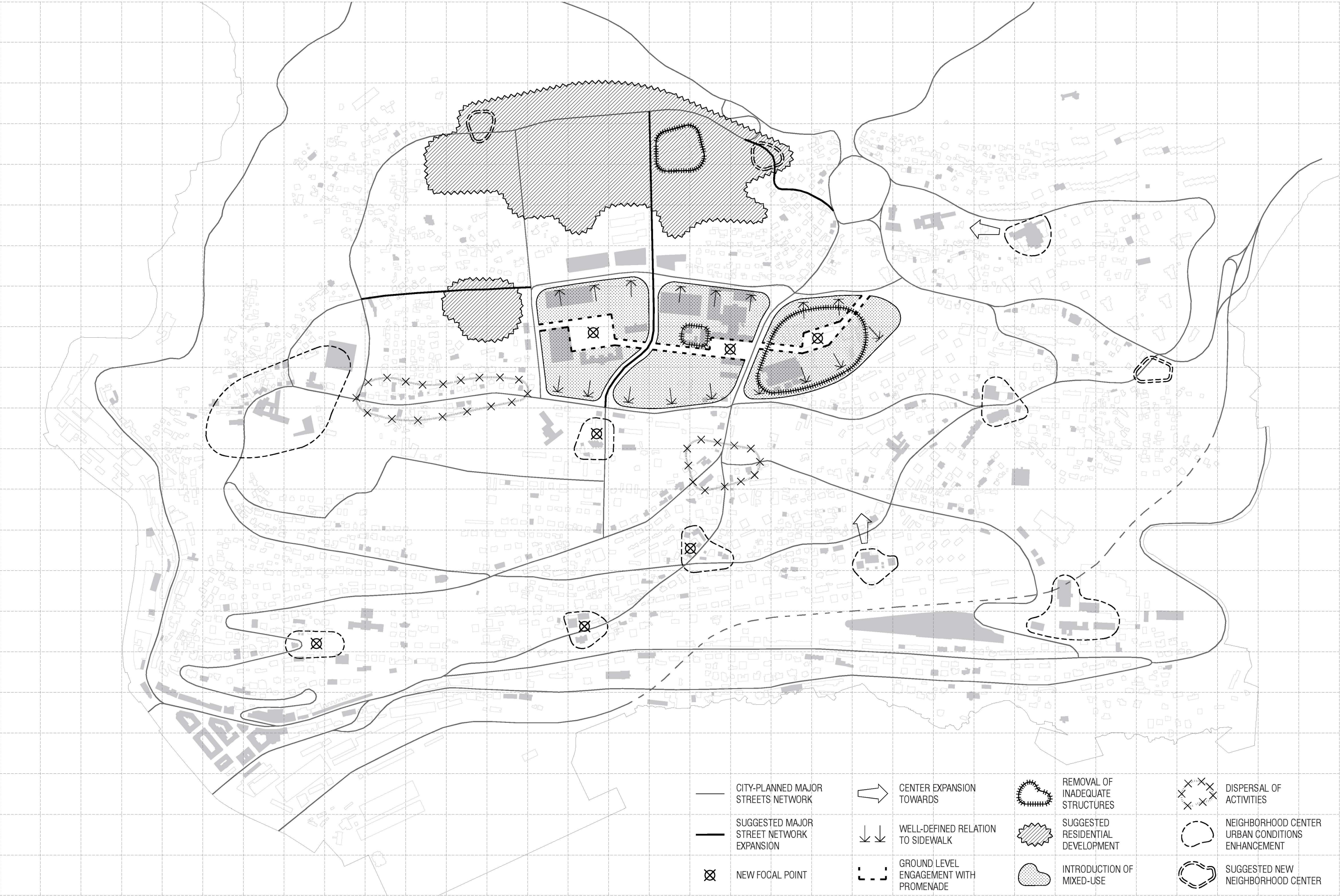


100m





100m





100m

