A MULTILAYERED ANALYSIS OF DEVELOPMENT OF IN-BETWEEN PUBLIC SPACES OF SOCIALIST AND POST-SOCIALIST RESIDENTIAL COMPLEXES

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Approval sheet of the Thesis

This is to certify that we have read this thesis entitled **"A multilayered analysis of development of in-between public spaces of socialist and post-socialist residential complexes"** and that in our opinion it is fully adequate, in scope and quality, as a thesis forthe degree of Master of Science.

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ABSTRACT

A MULTILAYERED ANALYSIS OF DEVELOPMENT OF IN-BETWEEN PUBLIC SPACES OF SOCIALIST AND POST-SOCIALIST RESIDENTIAL COMPLEXES

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Over past several years, there is a massive growth in the movement of people toward major cities including Albania. During the socialism period the neighborhoods of Tirana were not very dense. Most of the building houses were standard, low flats and mostly prefabricated while the city had large public spaces. Moreover, from that period until today, Tirana has expanded a lot. The city has significantly grown, become much denser, more diverse in terms of building types, taller, and relatively lacking in public areas.

This study addresses the in-between public spaces, by analyzing the theory and importance of spatial configuration relating to urban morphology and social interaction. It is focused on six different residential complexes in different neighborhoods in Tirana, Albania. The chosen complexes are similar in size and in morphology. The socialist and post-socialist urban blocks are chosen based on the buildings typology in order to find the differences in the two political approaches of urban design.

The study uses a mixed-approach in order to comprehend the dynamic relationships and socio-spatial organization of the neighborhoods using the spatial-morphological analysis, site surveys and observations. The overlap of the pattern of activities, syntactic measurements and the sites' survey allow to find out the urban morphology which facilitates the development of in-between public spaces.

By comparing socialist and post-socialist building typologies, the study reveals that socialist designs, particularly the tower, promote higher activities and a

more socially dynamic environment. However, the post-socialist slab and courtyard perform better in specific spaces, demonstrating potential for facilitating social interaction. The findings emphasize the importance of considering visibility, activity, and density in urban design for effective in-between spaces that foster social engagement.

Keywords: *contemporary housing, in-between space, neighborhood development, Spatial-morphological analysis, Space Syntax, socialist housing, social activity, QGis*

ABSTRAKT

NJË ANALIZË KRAHASUESE E ZHVILLIMIT TË HAPËSIRAVE PUBLIKE TË KOMPLEKSEVE TË BANIMEVE SOCIALISTE DHE POST-SOCIALISTE

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Gjatë viteve të fundit, ka një rritje masive në lëvizjen e njerëzve drejt qyteteve kryesore nga viti në vit, përfshirë Shqipërinë. Gjatë periudhës së socializmit lagjet e Tiranës nuk ishin shumë të dendura. Shumica e shtëpive ishin standarde, banesa të ulëta dhe kryesisht të parafabrikuara, ndërsa qyteti kishte hapësira të mëdha publike. Që nga ajo periudhë e deri më sot, Tirana është zgjeruar shumë. Qyteti është rritur ndjeshëm, është bërë shumë më i dendur, më i larmishëm për sa i përket llojeve të ndërtesave dhe relativisht në mungesë të zonave publike.

Ky studim trajton hapësirat publike, duke analizuar teorinë dhe rëndësinë e konfigurimit hapësinor në lidhje me morfologjinë urbane dhe ndërveprimin social. Studimi është i fokusuar në gjashtë komplekse të ndryshme rezidenciale në lagje të ndryshme në Tiranë. Komplekset e zgjedhura janë të ngjashme në përmasa dhe në morfologji. Blloqet urbane socialiste dhe post-socialiste janë zgjedhur në bazë të tipologjisë së ndërtesave për të gjetur dallimet në dy qasjet politike të projektimit urban.

Studimi përdor një metodë të shumëllojshme për të kuptuar marrëdhëniet dinamike dhe organizimin socio-hapësinor të komplekseve duke përdorur analizën hapësinore-morfologjike, observimet e komplekseve dhe të njerëzve. Observimi i aktiviteteve, matjet sintaksore dhe vrojtimi i komplekseve bëjnë të mundur se cila morfologji urbane lehtëson zhvillimin e hapësirave publike ndërmjet tyre.

Duke krahasuar tipologjitë socialiste dhe post-socialiste të ndërtesave, studimi zbulon se komplekset socialiste, veçanërisht “kulla”, promovojnë aktivitete më të larta dhe një mjedis më dinamik shoqëror. Megjithatë, objektet post-socialiste performojnë mirë në hapësira specifike, duke demonstruar potencial për lehtësimin e ndërveprimit social. Rezultatet theksojnë rëndësinë e marrjes në konsideratë të dukshmërisë, aktivitetit dhe dendësisë në projektimin urban për hapësira efektive ndërmjet tyre që nxisin bashkëveprimin social.

Fjalët kyçe: *analiza hapësinore-morfologjike, aktiviteti social, banesa bashkëkohore, banesa socialiste, hapësira sociale, QGis, sintaksa e hapësirës, zhvillimi i lagjes,*

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CHAPTER 1

INTRODUCTION

1.1 Problem statement

During the last few years, there is a massive growth in the movement of people toward major cities from year to year. Among these countries is Albania, where during the post-communist period took place one of the most significant transformations in Eastern Europe [1].

During the socialism period the neighborhoods of Tirana were not very dense. Most of the building houses were standard, low flats ranging from 2 to 5 floors, where some of them were prefabricated. The Ottoman-style mahallas that made up the majority of the pre-war blocks of single-family dwellings were destroyed to make way for apartment complexes. These buildings resembled but were smaller than the standard multi-family panel housing that became prevalent in new settlements throughout Eastern Europe. The majority of the modestly priced apartments that the government rent out were small. While the city had large public spaces that could include playgrounds, parks, various centers for the community, neighborhood courtyards in front of buildings, making it possible for people to have more social interactivity with each other [2].

Several traditional, small urban settlements were destroyed completely during socialism. However, in public housing developments, a communitarian spirit was either retained or revived. Additionally, the government made significant attempts to promote ideas of cooperation and equality in new urban areas that mixed individuals from all backgrounds. Furthermore, neighbors had to continue relying on one another for assistance because of poverty and the severe lack of commodities and services [3].

Increased residential mobility along with the abrupt and drastic political and economic upheavals brought on by the fall of the communist state upended long-established social norms and values. While many individuals enjoyed a more liberated and interesting lifestyle as a result of urbanization and Mediterranean

culture, the idea of community based on physical closeness started to be superseded by the commodification of social ties. The abundance of for-profit urban facilities and services reduced reliance on neighborly care. The variety of opportunities and demands for financial benefits decreased the quantity of time is available for neighborly interaction. Loss of concern for the community public space was influenced by regional and socioeconomic disparities between older residents and recent rural immigrants to the city [2].

Moreover, from that period until today, the city of Tirana has expanded a lot, its population has multiplied. Mass migration from villages and small towns to the capital made social mixing possible in urban housing. Also, the existing neighborhoods located inside the city were considerably densified, diversified in terms of building typologies and increased in height. New high-rise residential blocks were squeezed between older structures at an incredible rate to meet the need for new homes [2]. In Tirana, the increase in population density and building height has had a negative effect on social cohesiveness. Urban communities used to have a strong sense of community, although that has considerably diminished. Tirana, which, until recently, lacked high-rise apartments is in some ways an example of postponed development [1].

Additionally, many historic single-family communities in the inner city that had escaped the socialist ideology for densification were rebuilt with condominium complexes [4]. This type of dwelling was the largest Tirana had ever seen in terms of height and size.

This rapid urbanism and development in connection with the building typologies have made the open spaces of these large-scale project developments to be considered as spaces of secondary importance, but sometimes remain spaces left without a function.

Spaces created by modernists that demarcate the interaction between blocks and the streets have frequently replaced traditional urban morphologies, which has the effect of limiting street connectivity. It is described as the "torn interfaces" that exists between the house and the street where the actual physical separation of dwellings from urban patterns has transformed the urban experience from "many neighbors" to "none neighbors." [5]

The area in between street and the building is crucial for social interaction and behavior, with this space's design regularly evoking social encounters [6].These areas

can be a building's expansion internal areas that are directly accessible from the street, like balconies and courtyards, or front yards and sidewalk cafes, where these areas serve as the boundary between the public and the private spheres. These areas promote street life and social interactions in cities, and they might mean different things to different cultures.

1.2 Aim of the study

This research will analyze how these ‘in-between spaces’ various urban forms' arrangements of this intermediate space impact social interaction. Moreover, the real question lies in the fact that the presence of intermediate spaces and social interaction was higher in buildings built during socialism or contemporary.

The first objective of the study is to choose the types of residential complexes and the period in which they were built using morphological comparisons and analyses, which will be the basis for the study. Then continuing with the second aim, which is finding and examining the socio-spatial parameters of the complexes. And the third one is to study the site surveys and observations.

During this study six residential complexes are selected in Tirana, Albania, which three of them were built during the period of socialism, while the other 3 are contemporary. Also, these complexes belong to three different urban morphologies which include: tower, slab and courtyard typology.

In order to complete each aim, a mixed- approach method is used, that combines quantitative methods like QGIS + Space Syntax with qualitative techniques like site and surveys observations (snapshots).

The expected result is to find out the combination of different of urban morphologies, their spatial and social parameters and which morphology should facilitate a social interaction.

1.3 The object of the study

The object of the study is to address the in-between public spaces, by analyzing the definition and importance of spatial configuration related to social interaction and urban morphology. It is focused on six different residential complexes in different neighborhoods in Tirana, Albania. The chosen complexes are similar in size and in morphology. The socialist and post-socialist urban blocks are chosen on the buildings typology in order to find the similarities and differences in the two political approaches of urban design.

The study uses a mixed-approach in order to comprehend the dynamic relationships and socio-spatial organization of the neighborhoods using the spatial-morphological analysis, site observations and the site's surveys. The overlap of the syntactic measurements, pattern of activities and the sites' evaluation allow to find out the urban morphology which facilitates the development of in-between public spaces.

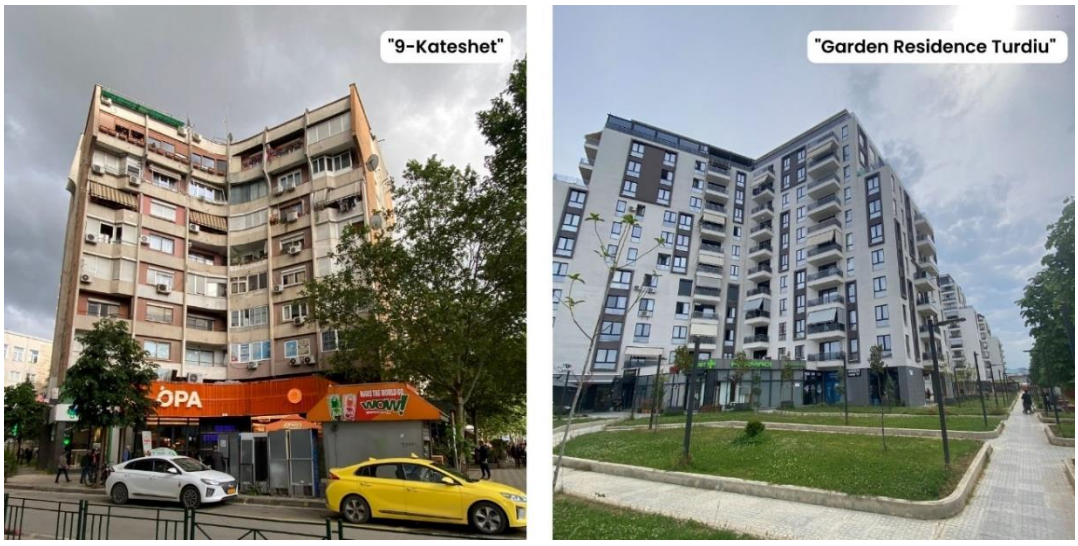


Figure 1. Socialist Tower "9-Kateshet" and Post-socialist Tower "Garden Residence Turdiu"(by Author)

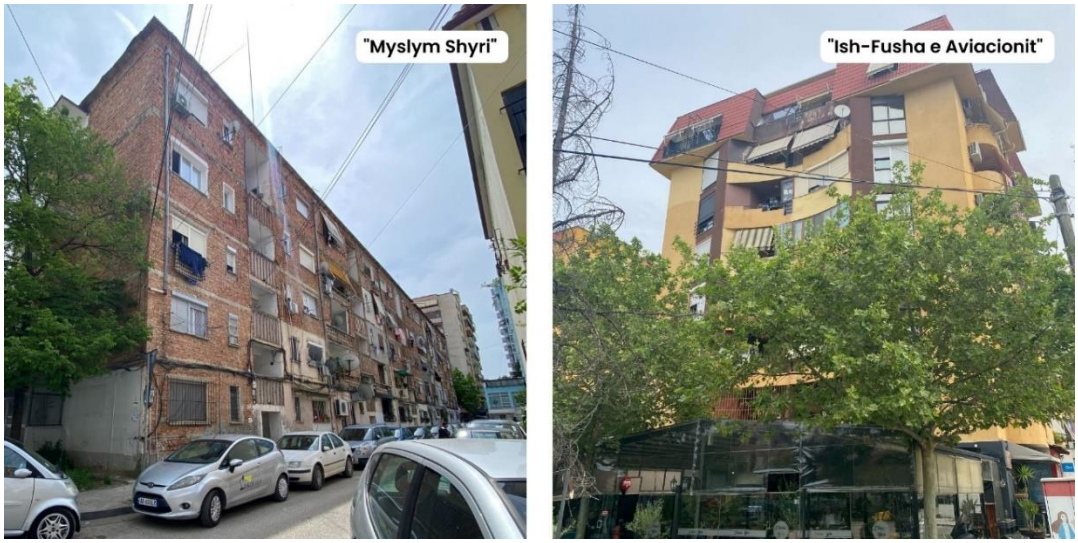


Figure 2. Socialist Slab "Myslym Shyri" and Post-socialist Slab " Ish-fusha e Aviacionit"(by Author)

Figure 3. Socialist Courtyard "Riza Cuka" and Post-socialist Courtyard "SIMA COM" (by Author)

1.4 Organization of the thesis

This thesis is divided in 5 chapters. The organization is done as follows:

In Chapter 1, introduction, the problem statement, aim of the study, the object of the study is presented. Chapter 2, includes the literature review topics like: importance of public spaces, in-between space and social interaction definition, previous studies on Space Syntax and QGis. Chapter 3, consists of the methodology followed in this study which uses a mixed method approach to achieve the objectives. In Chapter 4, are analyzed the case studies selected. In Chapter 5, are shown the results, discussions of this study. In Chapter 6, is shown the conclusions, limitations and recommendations for further research are stated.

CHAPTER 2

LITERATURE REVIEW

In the first part of the literature review, we are focusing on the public spaces, talking about their qualities and importance in people's lives. Then we continue with the explanation of the definition of the concept of in-between spaces from different researches. In the third part we discuss about the social interaction definitions and indicators. Moreover in the fourth part we explain the relationship between the in-between social spaces and Space Syntax. And the last subtopic is about the building form typology and what public spaces are creating among them.

2.1 Public Space importance and qualities

The term "public space" refers to any indoor and exterior, public and private, built and natural places that are open to the general public but may not always be easy to reach. Urban spaces relate to a particular location in an urban area, regardless of whether they are functioning or not. As it is shown in figure 4, it includes all public access areas such as parks, sidewalk/streets, in-between spaces, squares etc [7]. The space between buildings in an urban environment, according to Wang [8] , should be open to the public.

A sidewalk is a pedestrian pathway that is typically adjacent to a street. A sidewalk may have a variety of dimensions and be located in a different land-use area, depending on the building type. A sidewalk is usually found in areas of commercial, residential, and office buildings and is used as a public space where people gather, interact, and meet with each other [9].

A community park provides a place for residents to feel connected to one another, a place where different outdoor activities can be held and people can interact with one another, making it the most crucial component that promotes stability and

the economy of lifestyle. Large public parks that are used for recreation are found between 400 and 800 meters from residents' homes. A neighborhood park serves also as a unit that gives inhabitants easy access to public amenities. It is designed as a communal and physical area for practical and effective use. By creating a beneficial link between space, nature, and people, it is intended to represent neighborhood and place identity. Therefore, the park's layout affects how its users interact with one another [10].

The squares, the actual spaces between dense urban environments, promote interaction, aid in the development of urban identity, which expresses the essence of the location, and are pivotal to how people see cities. Urban life benefits from the squares that represent the characteristics and visions of the cities by fostering social memory, boosting activity, and fostering sociability. Squares serve as public gathering places that improve quality of life, foster a feeling of community, and preserve cultural heritage, lifestyle, and memory. They also serve as venues for daily activities and routines [7].

On the stage of social life, the drama takes place in public spaces [11]. Supporting this idea, Wang offered a new notion of urban public space, stating that it should be accessible to the general public and exist between buildings in urban areas [8]. Urban dwellers should be able to gather there to socialize and interact with others, as well as to spend time in the outdoors. It is also a representation of the urbanized image, garnering the city's nickname "living room" or "window". It is an urban location with several uses. Urban public space must be adaptable if the city is to continue to flourish.

Our cities' public areas are a valuable resource. They give people a lot of opportunities to interact with the community and gather closer. According to Li [12], the importance of public space that has been generally acknowledged, particularly through enhancing the quality of life, a welcoming environment and a thriving public life, enhancing urban aesthetics through a vibrant city and promoting economic growth through investment.

Public spaces are necessary for a pleasant living environment, according to Darin-Drabkin [13]. Several architects and urban planners argue that a city's capability to attract residents and businesses depends significantly on the quality of its public spaces [11]. There are many physical guidelines for what constitutes an excellent space, but according to Carmona et al. [14], the diverse groups that are

represented in our cities are all represented in functioning public spaces, which also foster a social climate in which every member of the community is welcome to participate. Carmona et al. provide an overview of twelve characteristics for the public space that influence its effectiveness by visualizing the public space and its administration [7] [14].

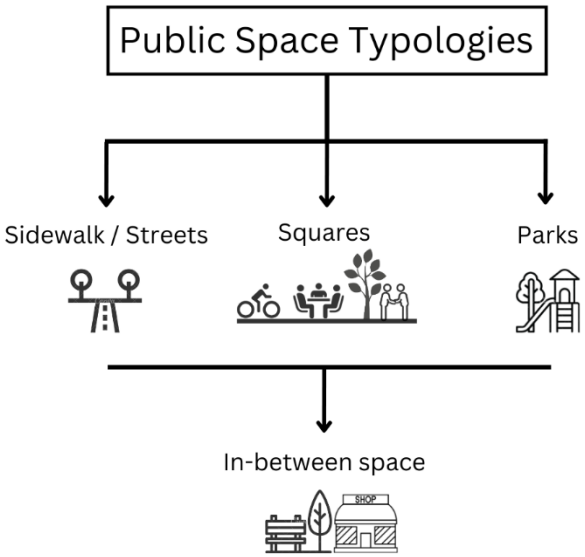


Figure 4. Public Space Typology Diagram (by Author)

2.2 In-between space definition

There are different ways to define in-between spaces. This idea is defined as the connection between inner and outdoors areas by [15]. The design, function, and use of these transitional spaces should be taken into account by urban designers as they are a vital element of urban planning that influences how cities are perceived. Significantly, several researchers have embraced the phrase "in-between space" [6] [16] [17].They describe the term "in-between space" in a variety of ways, including as an interface, a public/private barrier, a safe zone, a transition, a soft boundary, and as a smooth area.

The space in - between inside and outside environments might have an ambivalent quality, not fully belonging to either of the two extreme situations that make up this area (indoors or outdoors) or to any other third situation. These areas

do, however, open up the possibility of socio-cultural, and environmental transformation, where different virtuality and possible prospects may develop. Their dedication and capacity to occupy these spaces allow for a variety of engagement and social interaction possibilities [18]but it also raises the question of whose responsibility it will be to own and manage these intermediary areas. The intermediate areas between public and private space as well as their set definitions should be avoided by urban designers.

In fact, because area might comprise either private, public, or even both, categorization of space like "semi-public" and "semi-private" may also be misleading [15] .Also highlights this overlapping feature and refers to this place as being "in-between" due to its intricacy and "multifaceted nature." Therefore, in this paper the term "in-between space" is “adopted” to rather not use semi-public or semi-private.

2.3 Social Interaction definition

Social interaction can be defined as an action that involves two or more persons engaging in reciprocal activity. It encompasses all kinds of communication, like partnership, rivalry, assistance, play, informing, and negotiation. People who move and gather in the same area naturally sparks social interaction, emphasizing the significance of public outdoor spaces like neighborhood playgrounds or other spaces. Also, verbal communication, expression, mannerisms, movements, and attitudes are the four basic ways that people engage socially [19]. Social assistance is provided by neighbors through social interactions, which take place through the social matrix that locals form in their communities [20]. However, studies have only sometimes shown a direct link between real levels of social interaction and physical design elements like layout of the street and the pedestrian habitat [21]. So, better social assistance and greater social networks result from more social engagement in the neighborhood.

In recent years, neighborhood social interaction has drawn more and more attention. Neighborhood social engagement is acknowledged as a crucial indication to improve the quality of social life and the sense of place connection, even if it is thought that neighborhood bonds are weaker than those between friends and family

[22] . People's happiness, health, and well-being may rise when they interact with their neighbors through sharing hobbies or having brief chats.

Social interaction helps to promote the main process of creating neighborhood communities by educating individuals about their fellow neighbors and the social structure of the area. [23].

How neighbors interact and use shared outdoor spaces is influenced by the neighborhood's socio-demographic and personal features. The physical elements are also indicators that may influence social interaction among neighbors including layout pattern, land use mix, and physical features shown in figure 5.

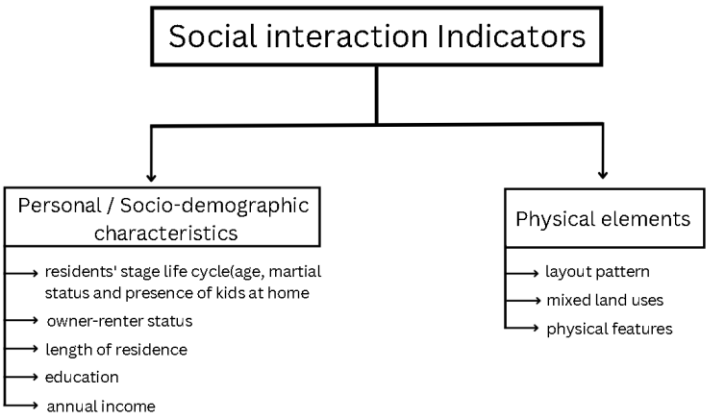


Figure 5. Social Interaction indicators diagram

2.3.1. Personal/Socio-demographic Characteristics

According to Glaeser, personal characteristics that impact neighborhood social interaction are assumed to be significantly influenced by a person's personality. Age has been shown to have a significant influence on the volume of social contacts. Compared to individuals of younger ages, older people have a lower tendency to interact with their neighbors. Longevity of residency and home ownership are favorable characteristics that boost neighborly engagement [24]. Higher-earning people generally have access to more resources, therefore they frequently have more contacts outside of their immediate neighborhood and less need

to communicate with neighbors.

The analysis of levels of neighbor and other qualities of community has been used extensively in research on how socio-demographic factors affect social interaction [25]. For instance, long-term owners with kids seem to be more likely to interact with their neighbors that enhance the quality of their neighboring [26] . Although various resident income levels can negatively affect neighborhood interactions [27], on the other hand social interactions have no relationship to age [28].

2.3.2. Layout pattern

This is referring to how a community is organized out in terms of space. The design of residential areas can encourage resident contact and, ultimately, the development of social bonds [29]. Traditional community designs may enhance social interaction, and physical features like walkways can encourage it [6]. Established that "long-duration activities" occur on residential streets in semiprivate spaces he also referred to as "soft edges."

2.3.3. Mix-land uses

Public housing buildings, ruined traditional mixed-use neighborhoods that foster a thriving street life. Social interaction is made easier when a person's place of living is close to a store or other activity center since it encourages people to go around and socialize. Chance interactions are more likely when residential and commercial land uses are combined [6].

2.3.4. Physical features

In order to promote social interaction, physical characteristics are recognized as effective design components in outdoor settings. Physical characteristics can encourage people to hang out outside and strike up talks. The presence of amusing items or features, such as strategically placed seating and artificial water landscapes, promotes the utilization of public space. Resident relationships strengthen and chances for social contact are promoted by the presence of nature in residential settings [30]. People on this site are likely to interact if there are playgrounds with kid-friendly recreation areas.

2.4 Previous studies on Space Syntax and QGIS focused on social interaction and in-between spaces

In Space Syntax is described as “a representational, analytical, and interpretive framework [5]. Space Syntax is composed of two main components: configuration and human movement and activity. Interconnected interactions, or how the spaces inside the network relate to one another, are how this spatial configuration is defined [17]. The aim of space syntax is to understand how structures are combined to generate a continuous open system. It makes an effort to comprehend the connection between an urban shape and its social components in addition to the indirect or direct links between locations. The strongest determinant of movement is spatial arrangement, which is followed by various attractors and land-use. According to Hanson [5]"natural movement" is the result of the relationship between mobility and urban structure. In light of this, how can Space Syntax approach "in-between space"?

Numerous studies on urban space employ space syntax. However, a study [31] was carried out on the in-between spaces of massive housing developments in three separate districts in Izmir, Turkey, each with a unique morphology. In cooperative housing communities in the given area, the author looked at the relationship that exists between the physical design of intermediate spaces and their

importance in relation to societal functions and urban morphology. By using a feature of Space Syntax like visibility graph analysis and observation behavior map-based technique, the study examined the effect of in-between spaces on social interactions in various urban areas. This last method reveals the urban space usage pattern and enables the capture of mostly passive activities [32].

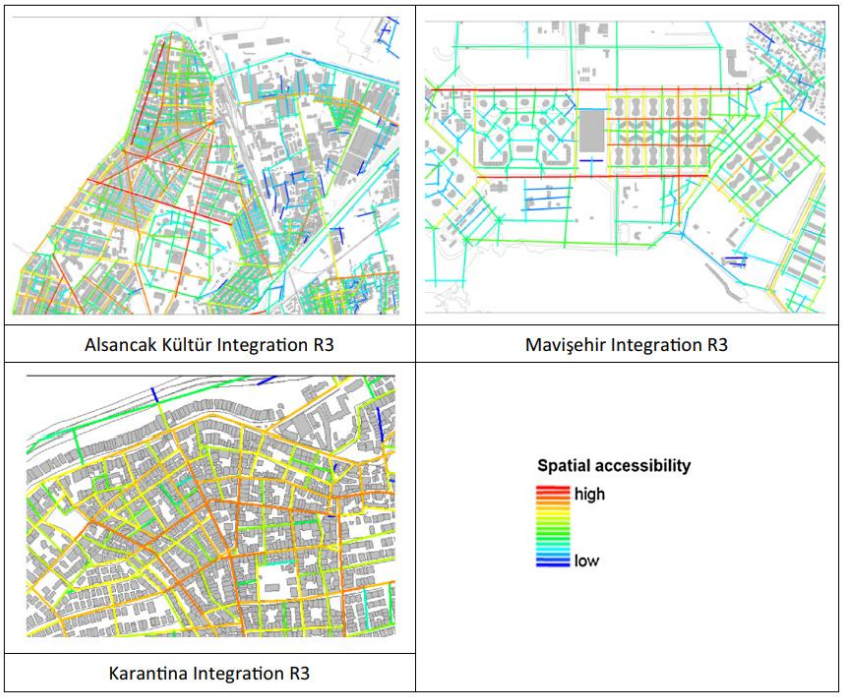


Figure 6. Integration R3 of three case studies

The study shows that spatial configuration generates movement, co-presence, and encounter fields, and that Kultur, which has more opportunities for movement and integration, and since there is diversified land use, there is a higher frequency of contact amongst inhabitants shown in figure 6. In-between areas promote social contact and raise the possibility of gathering. The study contends that while traditional and mixed-use communities facilitate more interactions, their feeling of community may be inferior to that of contemporary housing developments [33].

Georgios D. Lampropoulos et al. [34] undertook a research to investigate the connections between the real and perceived features of the built environment in a Modern Greek urban area. The study aimed to explore how the built environment

shapes residents' perceptions and experiences of the neighborhood.

A mixed-methods strategy was used in the study to integrate quantitative and qualitative research techniques. Data was gathered from three different sources: a survey questionnaire, a mapping exercise, and semi-structured interviews with residents. Residents' opinions on the neighborhood were one of the topics included in the survey questionnaire, and the results were analyzed using factor analysis, regression analysis, and descriptive statistics. Ten locals participated in the mapping exercise and depicted their area according to their thoughts and experiences shown in figure 7. Twenty residents participated in semi-structured interviews to learn more about their thoughts and experiences of the community. The neighborhood's spatial layout and its connection to inhabitants' perceptions were examined by the authors using space syntax analysis. The layout of the street network was examined using axial maps and segment analysis, which helped them pinpoint the most significant nodes and routes in the area [34].

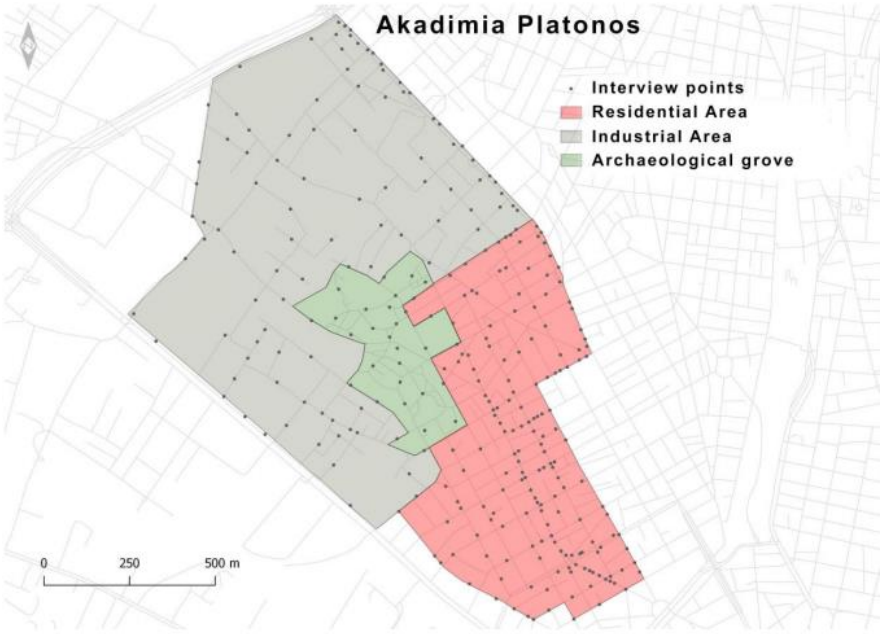


Figure 7. Interview points in Akadimia Platonos neighborhood, QGIS software

The study discovered that both physical and social elements affected how locals saw their community. The built environment's quality, such as the condition of the streets, the cleanliness of public places, and the presence of green spaces, were determined to be significant physical influences. The perception of safety, social

contacts, and a sense of belonging were all deemed to be crucial social variables. The mapping project showed that the routes people take, the locations they go, and the things they do influence how they see their area. The interviews showed that people's personal histories and life experiences affected how they saw their community. Social networks and the connections residents had with their neighbors also influenced how they saw their community. The investigation showed that inhabitants' perceptions of safety and social contact were strongly correlated with the neighborhood's spatial arrangement, underscoring the significance of spatial design in determining how urban surroundings are really experienced by people [34].

Rahmi Amin Ishak et al. [35] used a mixed-methods approach to perform a study with a focus on the socio-spatial interactions of Karanrang Island in South Sulawesi, Indonesia. Survey questions were used in the study to gather information on the island's population' demographic traits, social interactions, and economic activities shown in figure 8. The researchers also conducted semi-structured interviews with public servants and local leaders in order to get more thorough information. Additionally, the analysis of the island's spatial patterns and land usage utilized Geographic Information System (GIS) mapping.

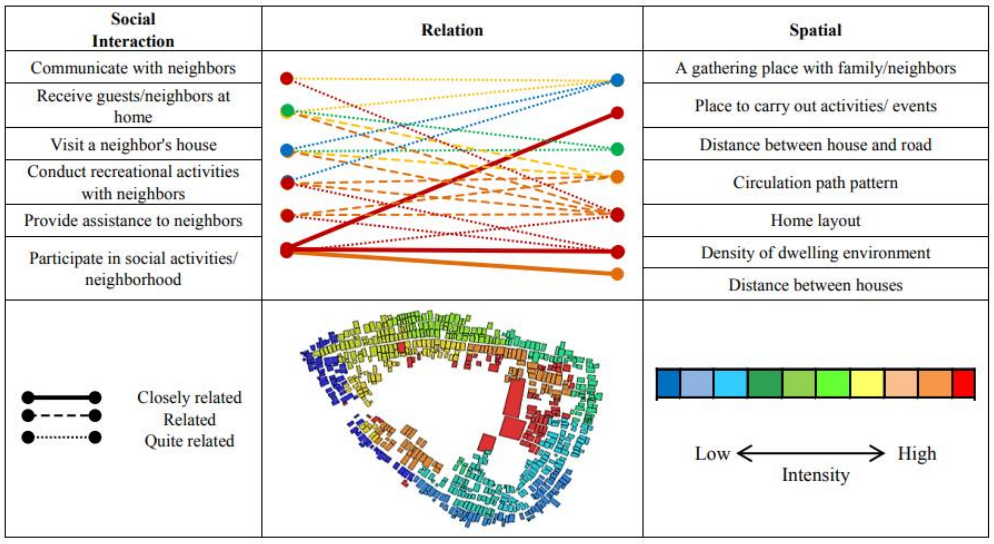


Figure 8. Socio-spatial relation in Karanrang Island

The results showed that fishing and seaweed farming are the main economic activity on the island, and that the community's way of life is highly dependent on

the sea. The study also discovered that the island's social networks are very important to its economic systems. It was discovered that the island's land usage was varied, including natural, agricultural, and residential regions. Due to the nature of the island and the limited amount of available land, the village center served as a nexus for both social and economic activity [35].

A graph-based method used by architects and urban planners to look at how the physical layout of cities and buildings impacts how people move around and interact with one another is known as "space syntax" [36]. In Rasht Municipality Square, Iran, Askarizada and Safarib did a study to look at the relationship between social contacts and pedestrian behavior. The researchers used Space Syntax and ArcGIS, two geographical analytic tools, to look for this link.

The researchers used Space Syntax to determine the connectivity and accessibility of different sites inside the pedestrian zone. To do this, the main pedestrian paths were represented by axial lines, and the accessibility level of each location was determined by computing the integration values of each segment of the axial lines. The analysis's findings showed that the most integrated pedestrian zones also had the most social contact and mobility.

Additionally, the researchers created maps showing the spatial distribution of social contacts in the pedestrian zone using ArcGIS. They could identify the parts of the square where social interactions took place most frequently by surveying and watching the area. According to the research, social contacts were focused in particular parts of the plaza, such as close to the fountain and the entrance to the bazaar shown in figure 9.

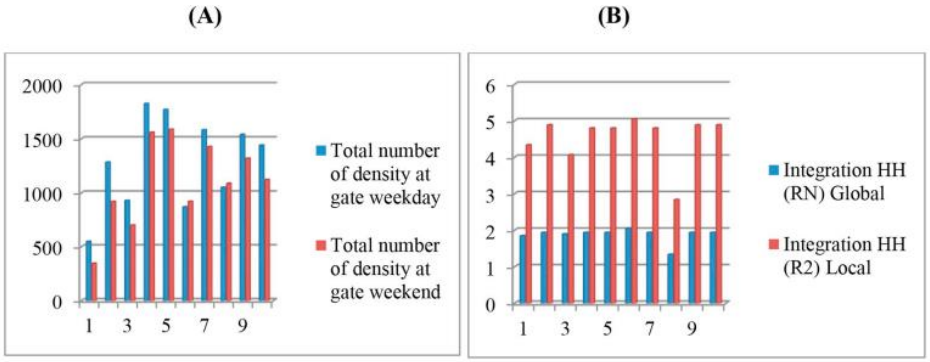


Figure 9. (A) The movement frequency of pedestrians in the gate counts observation during weekday and weekend; (B) comparison of global and local integration of the gates in the Municipality Square of Rasht.

The study's findings highlighted the crucial significance that social connections play in influencing pedestrian behavior in a pedestrian area in Rasht Municipality Square. The results of the Space Syntax study highlighted the connection between social engagement and accessibility by showing that the pedestrian zones with the greatest levels of social interaction and pedestrian mobility were also the most integrated. The sections of the square that were crucial for social contact were shown by the ArcGIS maps, which also gave a visual depiction of the geographical distribution of social interactions [37].

The study also showed how pedestrians' perceptions of their comfort and safety in the area are influenced by the prevalence of social interactions. The survey results showed that greater numbers of residents made people feel safer and more at ease in the square, corroborating other studies that found that a high degree of social interaction might improve a location's perceived safety.

Jie Ding et al. [38] used the Space Syntax technique in a study to investigate the social spaces in tourist villages in the Huizhou setting of China. The goal was to better understand the physical layout of tourist communities and to pinpoint the elements that influence social interaction there. Four villages in Huizhou, China, were the subject of the study, which gathered data through field observations, mapping, and interviews. Through the use of the Space Syntax approach, the inquiry focused on the spatial organization of the villages and assessed the degree of connectedness and integration between various spatial features such streets, buildings, and open spaces.

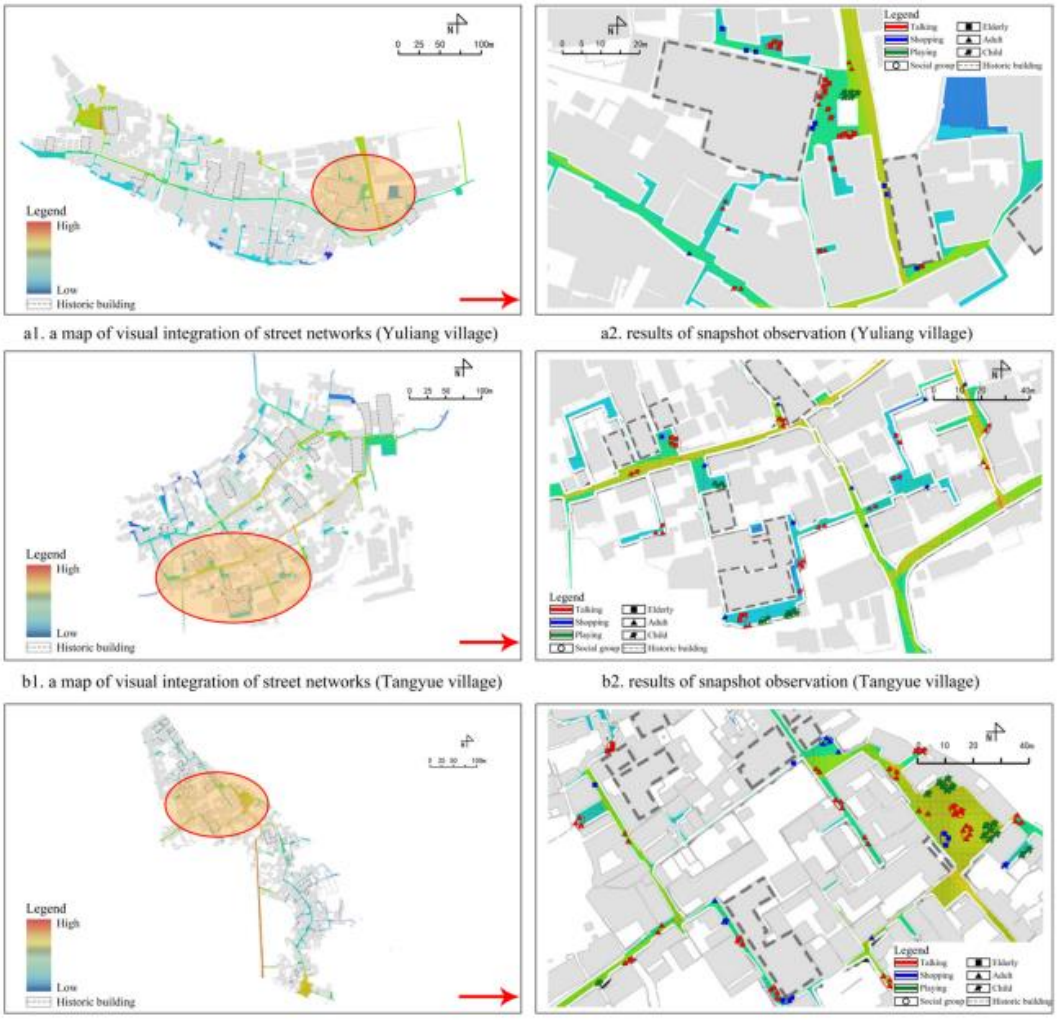


Figure 10. Snapshot observation results

According to the research's findings, social contact was significantly influenced by the way the villages were laid up. The study classified spatial structures into four categories: linear, radial, grid, and clustered. The linear construction was shown to be the most prevalent kind in the settlements. The study also discovered that the level of connectivity of the spatial elements had a crucial impact on social interaction shown in figure 10. Streets and open spaces were identified as the most important spatial elements for social interaction, followed by buildings. The study emphasized that several factors shape social interaction in tourist villages, such as the layout of the village, the level of connectivity of spatial elements, the density of buildings, and the location of important landmarks. The study's findings highlight the potential of the Space Syntax methodology to analyze the spatial configuration of other types of urban spaces and their impact on social interaction [38].

2.5 People's social interaction in different residential block typologies

The constructed form's typology provides insight into how cities operate as well as the movement that people make between public and private spaces. [39]. In order to create the ideal architectural experience, public-private zoning is organized to create a variety of interior and outdoor space types [40]. Building types are typically distinguished by their fundamental shape, context, or scale rather than the design of their building [41]. Types' purpose in contemporary architecture enables incorporation of future developments while avoiding imitation of historical expressions and styles that have developed over time and maintains continuity in the cityscape [41].

Typology is seen by contemporary urbanists as an essential tool for defining user-friendly locations in greater detail [41]. Blocks, plots, and streetscapes are crucial for achieving typological coherence in neighborhood design. Neighborhood streets and parcels typically serve as the city's "building blocks" or prefabricated infrastructure. Streets, buildings, and public open spaces combine to form the neighborhood's shared urban tissue patterns. This kind of urban fabric offers the environmental and physical conditions necessary for the emergence of a community sense and the social activity of neighborhood areas. But we can say that not in every housing block typology the interaction is the same.

Over than 50% of Koreans are living in apartments, which make up 51.5% of all housing types in Korea as of 2020 [42] . Apartments are therefore valued as key living settings in Korea. A high-rise apartment building with at least 20 floors and a plate-type or tower design is the main housing form in Korea. As Korea's problem with high-rise apartments has gotten worse, the demand for perimeter block buildings as a middle- to low-rise residential complex has come into question. The first effort of perimeter block housing in Korea did not take place until 2007. Smaller block sizes, according to Jacobs, create more social interaction among city residents [43].

In developed countries, large, high apartment complexes have been turned into low-rise, densely populated residential districts. High-rise housing is not secured from crime, as proved by Newman [44], who compared them to mid- and low-rise residences to show that as a building's number of floors rises, so does the crime rate.

In addition, a research by Gifford [45]demonstrates that the living atmosphere of high-rise buildings influences neighbor relationships and altruistic behavior in addition to raising the crime rate.

In Korea's high-rise residential areas, suicide is very common, as demonstrated by Kim et al. [46]. This is due to poor building management when the availability of semi-private space reduces. It is claimed that this makes surveillance challenging and contributes to a dangerous environment [44]. Additionally, a private place looks to be isolated, which causes people to feel socially and physically separated and to engage with their neighbors rarely [47]. The majority of research on perimeter block housing is focused on pre-planned interactions.

David Sim [48] highlights design considerations like perimeter block building configurations in his book Soft City and suggests integrating elements like enclosed areas and courtyards that are small. This provides every block a name and demonstrates how contact among individuals develops through a spatial hierarchy that progresses from private space to shared private area to communal space. Several studies refer to the shape of perimeter block buildings as a courtyard. Sano et al. demonstrated the benefits of courtyards by utilizing low-rise, high-density residential housing in Tokyo, Japan as an example [47].

2.6 Socialist and Post-socialist housing development in Albania

The 1950s, 1960s, and 1970s are the three time periods that the housing policies in Albania throughout the socialist era may be categorized into. Housing development was a component of an urban development approach intended to create an equitable society. Approximately 62,000 dwellings, or one-fourth of Albania's entire housing stock, were destroyed as a result of World War II, causing Albania to sustain significant damage [49].

Thus, in the 1950s, the government began to supply housing by demolishing existing urban areas and erecting brand-new, three to four-story apartment buildings, but these buildings had extremely poor architectural quality. The apartment buildings became to be the primary kind of accommodation. While about 300,000 urban

housing were created in Albania between 1945 and 1979, there was still a need for more housing because of the growing population. Albanian researcher Aliaj notes that in addition to structures done by volunteer efforts, prefabricated apartment buildings with up to 5–6 stories were built in major cities like Tirana and Durres [50]. Also, he stated that the brick used to create these structures was local, as was the stone used for the foundations. The structures' facades were constructed with the same materials. The public space in Tirana during the socialist era can be categorized into two types: the first type includes elements at the city level such as significant squares, significant streets and sidewalks, and significant parks ("lulishte" in Albanian); the second type includes green spaces and playgrounds in between the residential blocks [51].

The socio-economic-political environment that Albania experienced had a significant impact on Tirana's post-socialist housing. The post-socialist era in Albania is characterized by unchecked, dense, high-rise urban development. In Tirana, public spaces and greenery were "preferred prey" of builders, who also built informal dwellings in the surrounding urban areas. The eviction of agricultural land led to the emergence of informal dwellings in the periphery. Ownership was in a condition of transition from public to private [52].

It took two different forms in the city center: those built on public open areas and informal expansions to pre-existing houses. In the year 2000, the informal dwelling communities were destroyed as part of a cleaning operation [53]. High-rise housing and residential complexes, which were built at the cost of public space, are an example of a typical formal housing type that emerged in the post-socialist era. This procedure produced gated communities in Tirana's southern and eastern suburbs [54].

With the election of Edi Rama as the city's new mayor was a key political event in "cleansing" the city of informal constructions, high-rise structures would later come to symbolize the post-socialist era. The Municipality of Tirana launched a project called "The Rebirth of City" in 2000 as a result of the irregularities between buildings and general urban irregularity. This project included painting the facades of a sizable number of apartments inside the Middle Ring area in vibrant colors. Implementation of the project took place between 2000 and 2008. This time, Tirana's cityscape grew more vibrant and upbeat [51].

CHAPTER 3

METHODOLOGY

The study uses a mixed-approach in order to comprehend the dynamic relationships and socio-spatial organization of the neighborhoods using the spatial-morphological analysis, site surveys and observations. This method combines quantitative methods like QGIS + Space Syntax with qualitative techniques like observations (snapshots).

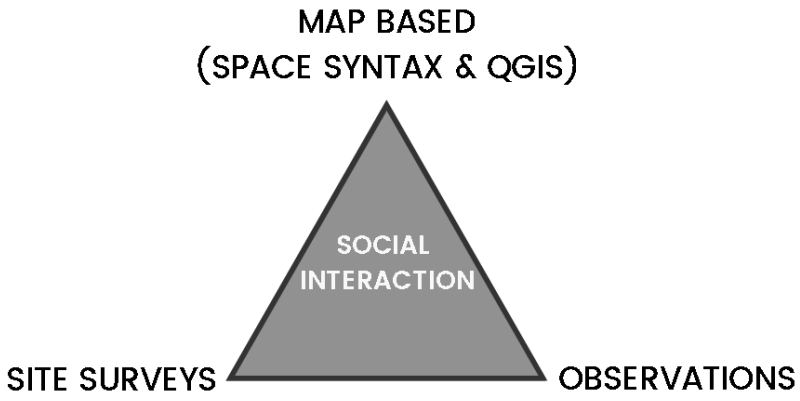


Figure 11. Methodology Diagram (by Author)

First, a map-based analysis through QGIS and Space Syntax was used in the research. QGIS is an effective application that is frequently used for geographic analysis, charting, and data visualization. It offers a selection of plug-ins and tools that make it possible to build intricate maps and analyze geographic data. On the other hand, a method known as Space Syntax aids in the framework analysis of the built environment in regards to connectivity and geographic organization. It focuses on the idea that how people get around, interact with one another, and use various places in a community is influenced by its spatial configuration. To assess a city's spatial characteristics, such as the degree of integration, connectivity, and

accessibility of various areas, Space Syntax employs a variety of metrics.

The Space Syntax technique will be applied in this research as a plugin in the QGIS program to produce various map studies, including integration, choice measurements, visibility graph. To reach one place from another in the system, one must make a certain number of moves and changes, measured by Integration, which can be viewed as both a global and local measure. This shows the degree of integration or segregation between the component and the whole [55]. Using the integration analysis will be examined, for example, the connectivity and accessibility of various areas of the neighborhood, which may affect resident interactions with one another, Compared to more disconnected neighborhoods, integrated and easily accessed areas are likely to promote more social interaction and better community relationships.

Choice is the degree to which a particular street is a part of the network's shortest possible route between any two sets of streets. When many of the shortest paths linking every space in a system to every other space in the system travel through a space, that space has a high choice value. Choice can be analyzed locally, globally, and by using all three distance categories, just like integration [5]. Using the choice measurements analysis will be examined the various pathways that residents can take to get to their locations, which can influence their chance of running into and engaging with other people. Residents are more likely to engage with one another if there are numerous pathways going to a park or a market rather than just one primary route.

Visibility Graph Analysis (VGA), a technique to enable the thorough examination of numerous spots in an environment via constantly assessing the intervisibility of distributed positions across the environment. This allowed for a more effective representation of the spatial features of environments. Visibility graphical analysis employs a variety of metrics from the framework of small-world systems and network theory's centrality to evaluate the perceptual characteristics of space and potential applications for it [56]. The study of the visibility graph will assist in understanding how people use and view various places, which can also affect social interaction. Compared to hidden or difficult-to-access places, highly obvious and accessible spaces are likely to draw more visitors and encourage more

social contact.

In all, the map-based analysis utilizing QGIS and Space Syntax is a useful method for analyzing social interaction in the built environment because it can shed light on how a neighborhood's geographic characteristics influence the social interaction patterns of its inhabitants.

Secondly, site surveys are another tool used in research methodology to gather information about particular sites or regions of interest. This might involve examining the physical elements of a location, such as the organization and design of buildings, the overall condition of the surrounding neighborhood, and any distinctive landmarks or features. Additionally, site assessments could entail gathering data on any potential nearby activity, such as businesses or recreational spaces.

The third technique used is observation, also known as "snapshots." This method involves keeping records of people's sitting and standing locations as well as their daily activities. The research will divide people into gender, age groups for children, adults, and the elderly. In each case study area, snapshots will be taken on one workday and one Sunday, with each snapshot being taken at three distinct times of the day. These images will give viewers a visual grasp of how locals utilize the neighborhood's public areas.

CHAPTER 4

CASE STUDY ANALYSIS

This study analyses six residential complexes in Tirana, Albania. These blocks were selected on the typology of the buildings (tower, slab, and courtyard) and the period they were built, one belonging to the time of socialism and one to today's times.

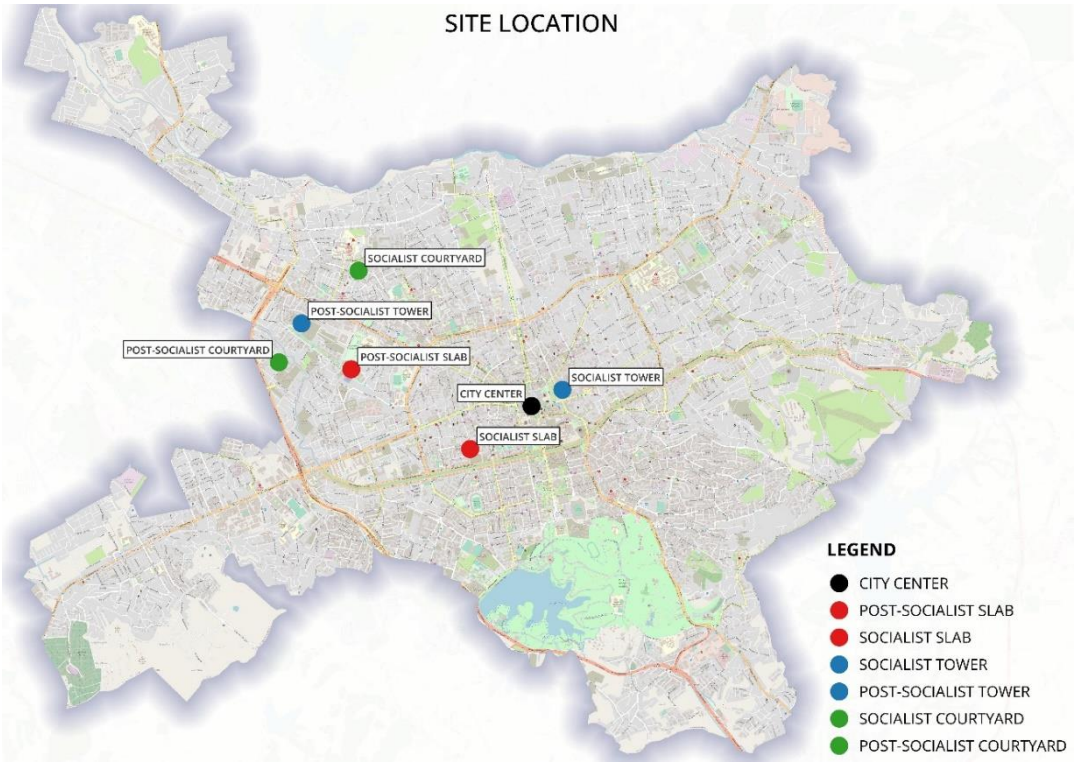


Figure 12. Site Location Map

Table 1 shows the selected case studies that are which are divided according to the periods in which they were built, the typology of the buildings expressed by the symbol in the form of a circle with different colors. These symbols are also located on maps *Figure 12* named as: SOCIALIST TOWER (9 Kateshet), POST-

SOCIALIST TOWER (Garden Residence Turdiu), SOCIALIST SLAB (Myslym Shyri), POST-SOCIALIST SLAB (Ish-fusha e Aviacionit), SOCIALIST COURTYARD (Riza Cuka) and POST-SOCIALIST COURTYARD (SIMA Com).

Table 1. Site Selection

	SOCIALISM	**POST-SOCIALIST**
TOWER		
SLAB		
COURTYARD		

The first typology is the *tower building typology*. A tower building refers to a tall and narrow building, designed to be higher than they are wide. Usually with a relatively small footprint that provides a different number of functions. These buildings are frequently utilized to make the best use of the available space, accommodate lots of people or activities, and benefit from natural ventilation and lighting. In this typology are included: “9 Kateshet” and “Garden Residence Turdiu”.

Figure 13. "9-Kateshet" Site

"9 Kateshe" is a residential complex located at Rruga e Barrikadave, 0.34 km from city center of Tirana. Built during the Communist era in the 1983, with a total area around 10,143 SQM. The complex itself consists of three apartment building blocks, each with nine floors that are connected to a one-story structure on the ground floor. On the ground floor there are many different facilities such as services, commercials, offices, etc. The complex was and is one of many examples of mass housing construction projects that were undertaken in Albania during that time. Being near city center, the complex is surrounded by several public amenities, including schools, shops, and public transportation.

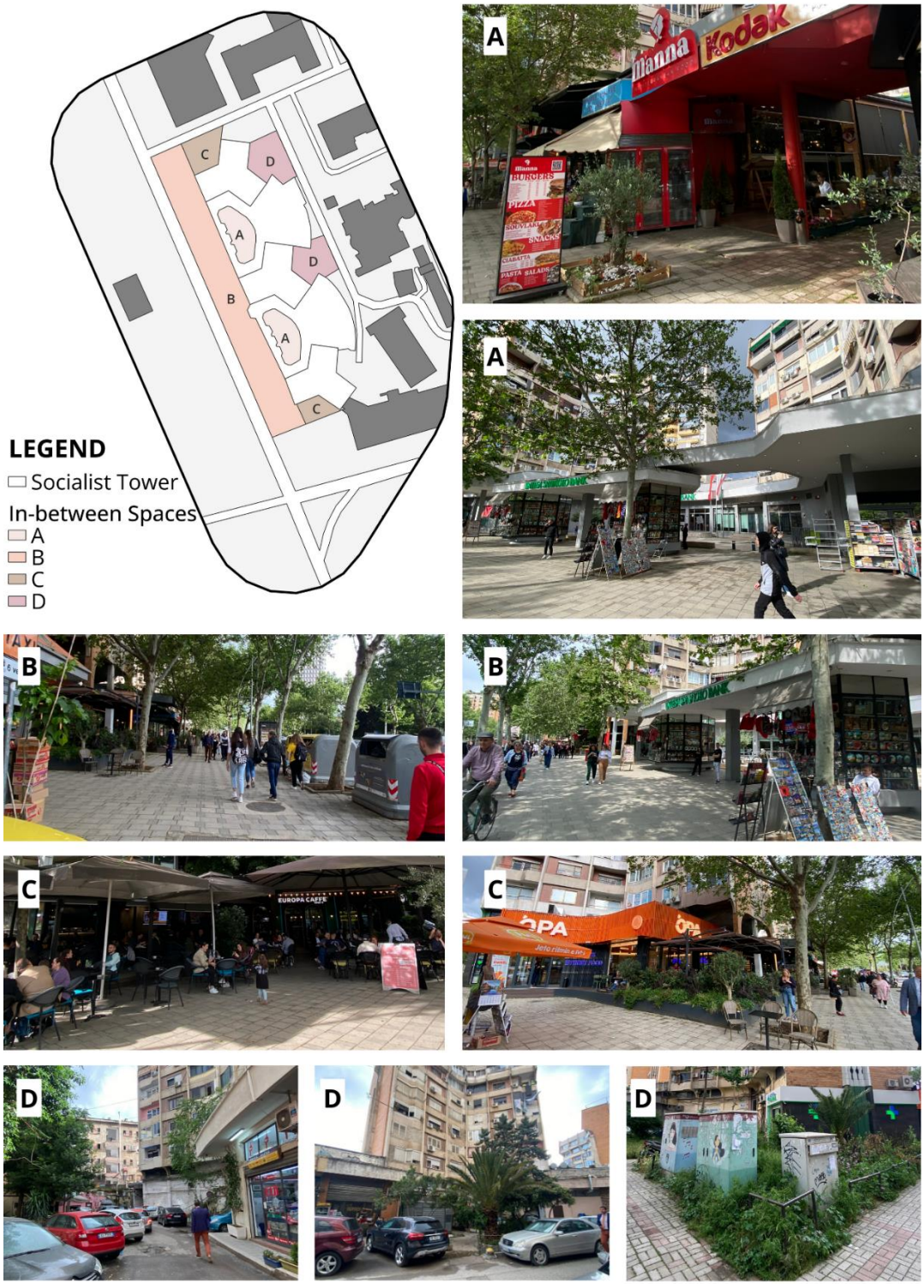


Figure 14. In-between spaces at "9-Kateshet"

Figure 14 shows all the in-between spaces in the “9 Kateshet” residential complex. Starting from Photos A that show in-between spaces in front the building. There are various trees in the area, and the ground is also covered in stone pavers. However, there aren't enough benches to sit on. There are many different activities going on in the building's ground level, including a bank, souvenir shops, a market, and bar cafés. Also not to forget to mention the presence of the bus station, one of the points where people gather the most and serve as a transitional area shown in photos B. Photos C that shows a lively corner area that is paved with stone slabs on the floor. It displays a variety of ground-floor activities, including a bar café. The surrounding area is given a sense of nature by the presence of several trees. Another angle shows a corner public space, with the same pavements, presence of tress and of activities like restaurant and pharmacy. The development of these activities takes up the bulk of the area, generating a lively environment. On the other hand Photo D, shows the public space behind the building, different activities on the ground floor and mostly hardscape and lack of greenery. But the back corner is the only public space in this residential complex, that except trees we can see also the implementation of greenery and hardscape but still remains unused by people.

Table 2. Characteristics of In-between spaces at "9-Kateshet"

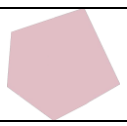
Socialist Tower	Shape	Area	Space	Use	Condition
A		250M²	Closed	Bank, Café Bar, Shops	Paved, Trees
B		1500M²	Opened	Sidewalk , Kiosks , Bus Station	Paved , Trees
C		170M²	Semi-Opened	Sidewalk ,Café Bar	Paved , Green Areas , Trees
D		260M²	Semi-closed	Café Bar	Paved , Trees

Table 2 displays the Socialist Tower spaces and gives a brief detailed overview of each of its in-between spaces. Starting with space A, semi-hexagonal-shaped which is a closed form covering 250 square meters .Occupied by a bank, a café bars, and other commercials. An inviting ambiance is produced by the paved streets and trees that decorate the area. Moving on to space B, a long rectangular shape, with an open design approx. 950 square meter footprint, the area has a walkway, kiosks, and a bus stop. The area is paved and well landscaped, making it accessible for commuters and pedestrians. Space C designates a 170 square meter, semi-opened trapeze shape. A walkway, a café bar, paved spaces, and trees are all present in this location, which combines attractiveness and functionality. The last space D, is a semi-closed pentagon shape approx. 260 square meters. The area is paved and enhanced with trees, providing a comfortable and somewhat secluded atmosphere.

Figure 15. "Garden Residence Turdiu" Site

“

“Garden Residence Turdiu” is a residential complex located at Rruga Beniamin Kruta and its 2.3 km from city center. Built recently in 2019 and has a total area around 26,739 SQM. As “9 Kateshet”, the complex has a similar shape and also consists of three apartment building blocks, each with twelve floors that are connected to an eight-story structure. On the ground floor there are many different facilities such as common area, services, commercials, offices, etc.

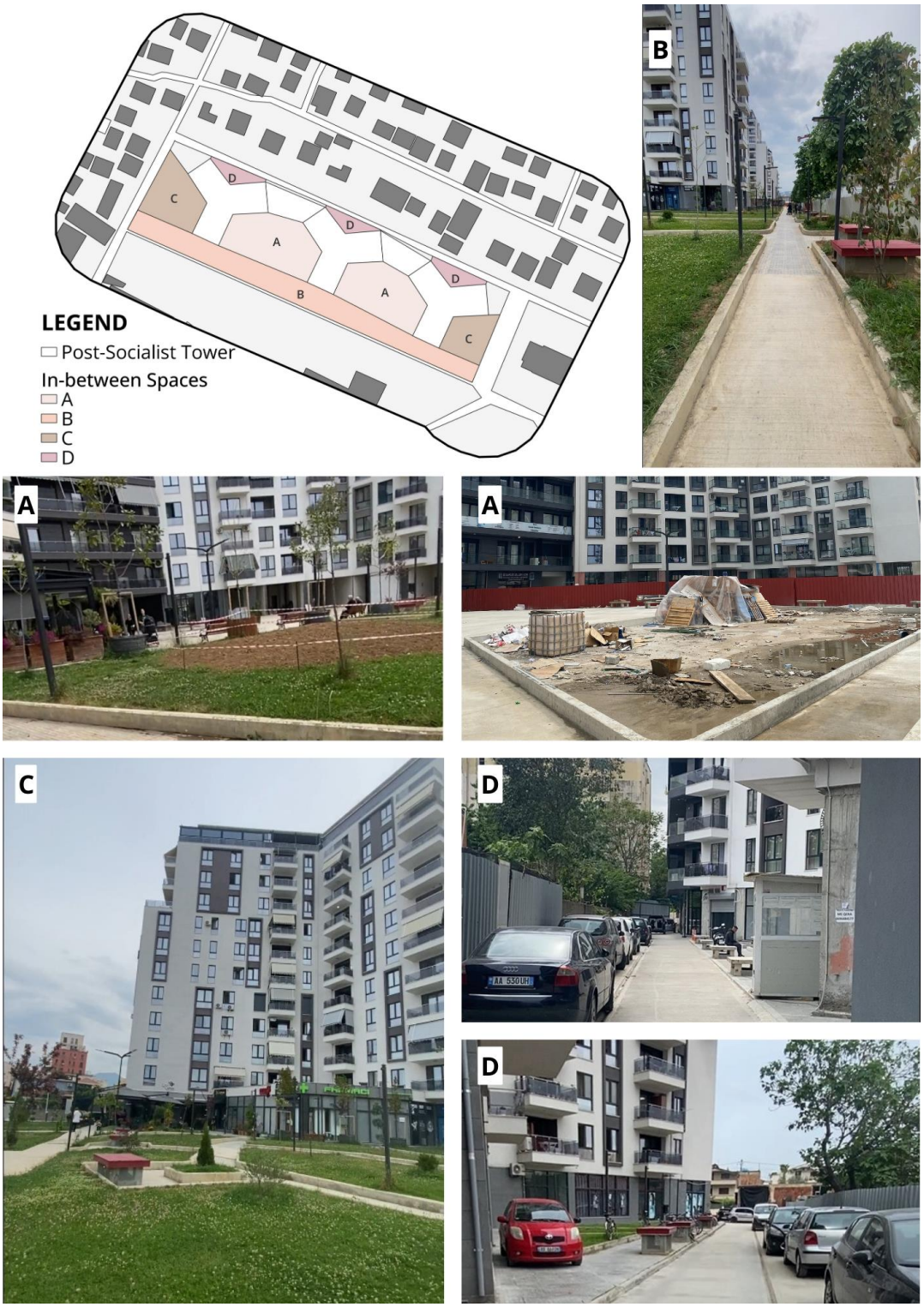


Figure 16. In-between spaces at "Garden Residence Turdiu"

Figure 16 are shown all the in-between spaces in the “Garden Residence Turdiu” residential complex. Photos A, B shows another in-between spaces semi-hexagonal-shaped in front the building and the same landscape design is implemented. Meanwhile in another photo the landscape is still in construction but that the same design will be maintained throughout the landscape. Photo C shows a lively corner area that is paved with stone slabs on the floor, greenery plots, and presence of trees, bushes and benches. It displays a variety of ground-floor activities, including bar café, pharmacy, market. The surrounding area is given a sense of nature by the presence of several trees. However, in the photo D, which is the back of the residential complex is mostly hardscape, used for cars, also is visible the lack of greenery.

Table 3. Characteristics of In-between spaces at "Garden Residence Turdiu"

Post-Socialist Tower	**Shape**	**Area**	**Space**	**Use**	**Condition**
A		1400M²	Semi-closed	Café Bar	Paved, Benches,
B		2600M²	Opened	Relax Area	Paved, Green Areas , Benches, Trees
C		890M²	Semi-Opened	Sidewalk + Café Bar	Paved, Green Areas , Benches, Trees
D		200M²	Semi-Opened	Sitting	Paved, Green Areas , Benches

Table 3 displays the Post-Socialist Tower spaces and gives a brief detailed overview of each of its in-between spaces.

Space A is approx.1400 square meters in size, has a semi-hexagonal form, and is defined as being semi-closed. It has paved areas, benches, and is generally utilized as a café bar. While constructing is still ongoing in the other semi-hexagonal area. On the other hand, Space B has a bigger space of 2600 square meters and an open rectangular form. Paved surfaces, green spaces, benches, and trees are all present in this relaxation area. People may relax and take in their surroundings in an attractive area that is created by the blend of natural materials and sitting alternatives. Space C is 890 square meters in size and features a semi-opened trapeze design. Its area serves as both a sidewalk and a café bar. It has paved walkways, green spaces, benches, and trees. Space C is a comfortable spot for people to stroll and have a drink at the café bar because of this mix of features. Last but not least, space D is 200 square meters in size and is shaped like a semi-opened triangular-pentagon. It features paved surfaces, green spaces, and seats and serves as a resting space.

The second typology is the *slab building typology*. A slab building refers to a rectangular form with a flat rooftop and minimal decoration. A building that is created as a set of horizontal slabs or plates that are built on top of one another to form buildings with multiple floors structure. In this typology are included: “Myslym Shyri” and “Ish-fusha e Aviacionit”.

Figure 17. "Myslym Shyri" Site

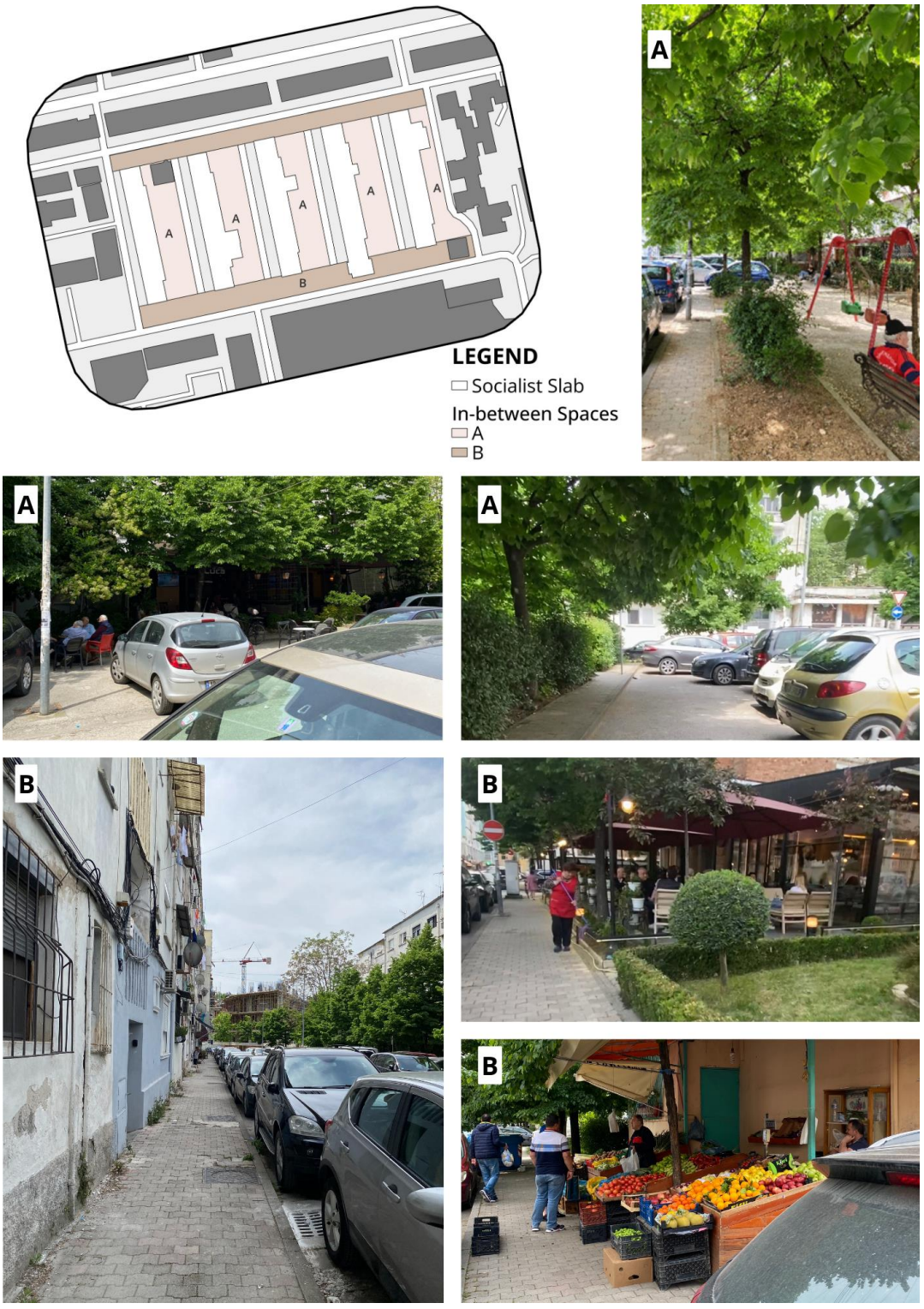


Figure 18. In-between spaces at "Myslym Shyri"

"Myslym Shyri" is a residential complex located at Rruga Vangjush Furxhi, 0.7 km form city center. Built recently in late 1940s and has a total area around 16,470 SQM. This residential complex consists in 5 blocks of 5 floors, also categorized with a simple rectangular shape structure.

Figure 18 are shown the in-between spaces in the "Myslym Shyri" residential complex. The public spaces in these residences can be divided into 2 categories. The first is the public spaces in front of the buildings, where you can clearly see the presence of different activities like bar café, market, shops, also the presence of trees, greenery, benches and playgrounds, which are shown in photos A. On the other hand, in photos B, we have the spaces on the side of the buildings, where most of them are occupied by expansion of the activities on the ground floor, at the same time used as sidewalk. These spaces are mostly hardscape paved with stone tiles and concrete, also we see the presence of some green areas and trees.

Table 4. Characteristics of In-between spaces at "Myslym Shyri"

Socialist Slab	Shape	Area	Space	Use	Condition
A		950M^2	Opened	Playground, Relaxing Areas	Paved, Green areas, Benches, Trees
B		850M^2	Opened	Market, Café Bars, Sidewalk	Paved, Green Areas, Trees

Table 4 displays the Socialist Slab spaces and gives a brief detailed overview of each of its in-between spaces.

Space A is 950 square meters in size, has a rectangular shape, and is being used as a playground and relaxation space. It has a mix of paved areas, green spaces, benches, and trees, creating a comfortable setting for recreational activities. Space B,

on the other hand, is 850 square meters in size and consists with presence of market, a café bar, and a sidewalk. Like space A, space B also features paved areas, outdoor areas, and trees to provide a lively ambiance for interacting and sitting. Both spaces place a high priority on a mix of useful infrastructure and natural components, which improves the spaces' all-around attractiveness and usability.

Figure 19. "Ish-Fusha e Aviacionit" Site

“Ish-fusha e Aviacionit”, the complex is located at Ish-Fusha e Aviacionit area, 2.05 km from city center. Built in 2004 and has a total area around 20,925 SQM. The complex consists of nine apartment building blocks in the shape of a rectangle. Many different facilities are in the ground floor.

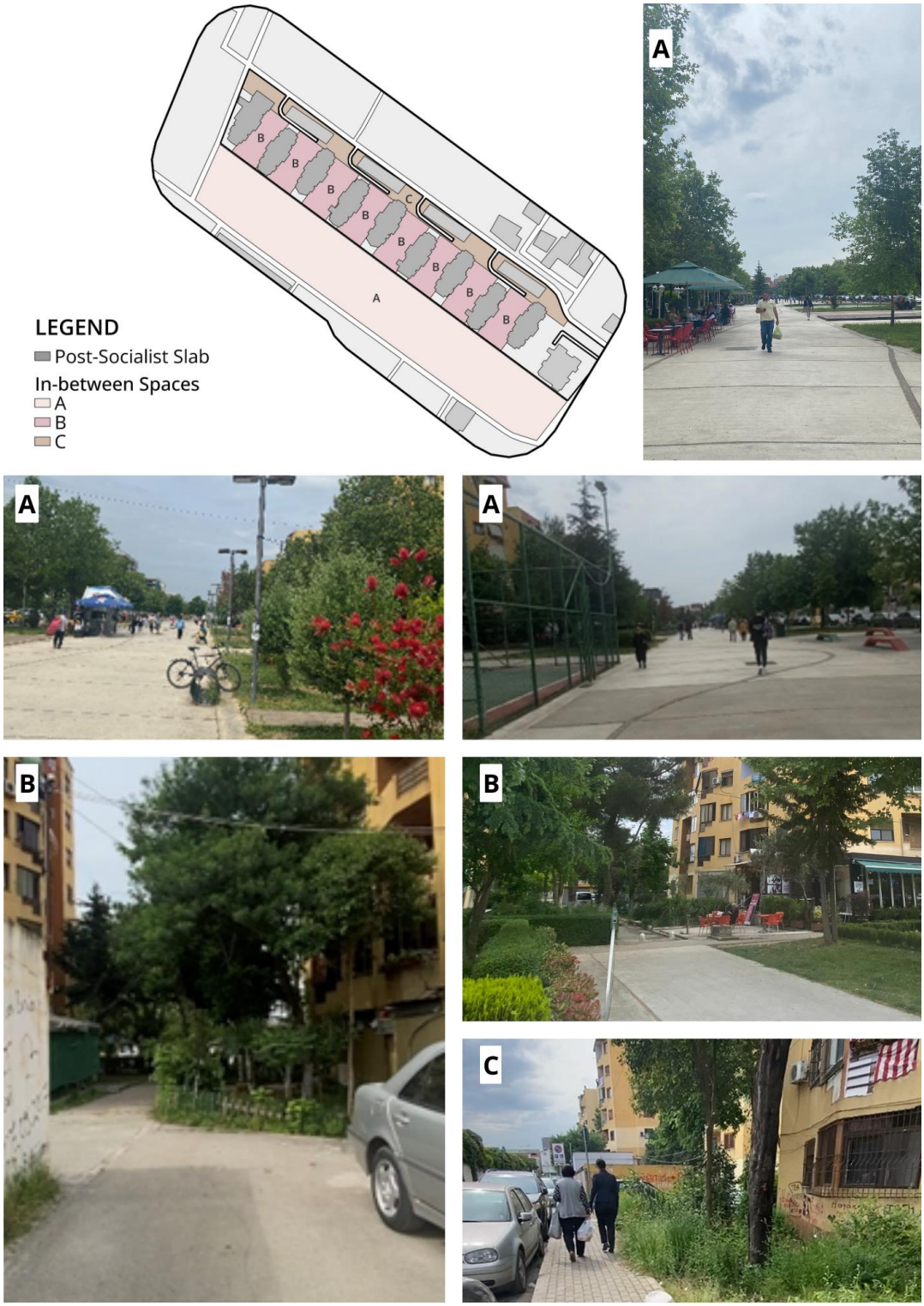


Figure 20. In-between spaces at "Ish-Fusha e Aviacionit"

Figure 20 are shown the in-between spaces in the “Ish-Fusha e Aviacionit” residential complex. The public spaces in these residences can be divided into 3 categories. The first is the main boulevard in front of the buildings, a mixture of hardscape and softscape. On both sides of the boulevard, there is a large presence of trees and green elements, accompanied by the presence of benches and playground areas shown in photo A. On the other hand, in photo B we have the spaces between the buildings where the presence of benches as well as natural elements such as trees and bushes is also noted. All the facilities are on the ground floor in front of the boulevard like bar café, market and shops. Photo C shows the in-between spaces behind the buildings which serve as transitional spaces to the boulevard.

Table 5. Characteristics of In-between spaces at "Ish-Fusha e Aviacionit"

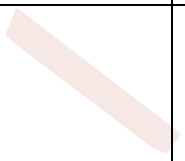
Post-Socialist Slab	**Shape**	**Area**	**Space**	**Use**	**Condition**
A		950M²	Opened	Playground, Green areas	Paved, Green areas, Benches, Trees
B		120M²	Closed	Activities, Green Areas	Paved,Trees, Benches
C		1800M²	Semi-Opened	Sidewalk	Paved, Bushes, Trees

Table 5 displays the Post-Socialist Slab spaces and gives a brief detailed overview of each of its in-between spaces.

Space A, a large open area that serve as a long promenade that includes playgrounds and green spaces. It is around 950 square meters in size. The area is paved, combining trees, seats, and green spaces to create a comfortable setting for different activities. Moving on to space B, which is rectangular in shape and has a

surface area of around 120 square meters. However, it is regarded as a contained facility providing space for a range of activities and green spaces. Area B is in good condition, with a paved area, beautiful trees, and seats for people to relax on. Space C is made up of a walkway and covers a size of around 1800 square meters. It is paved and filled with trees and shrubs, which gives the area a sense of greenery.

The three sections inside the post-socialist slab provide a variety of functions, from play and recreation to activities and pedestrian circulation, while also providing visually pleasant elements like trees, green areas, benches, and paved surfaces.

The third typology is the *courtyard building typology.* A type of architectural that refers to a building or group of buildings constructed around a central courtyard or open space that serves as a focal point and meeting place defines this design strategy. In this typology are included: “Riza Cuka” and “SIMA Com”.

Figure 21. "Riza Cuka" Site

“Riza Cuka” is a residential complex located at Rruga Riza Cuka, 2.15 km from city center. Built in 1970s - 1980s and has a total area around 37,300 SQM. This residential complex consists in three groups of building blocks six floors built around a central open space.

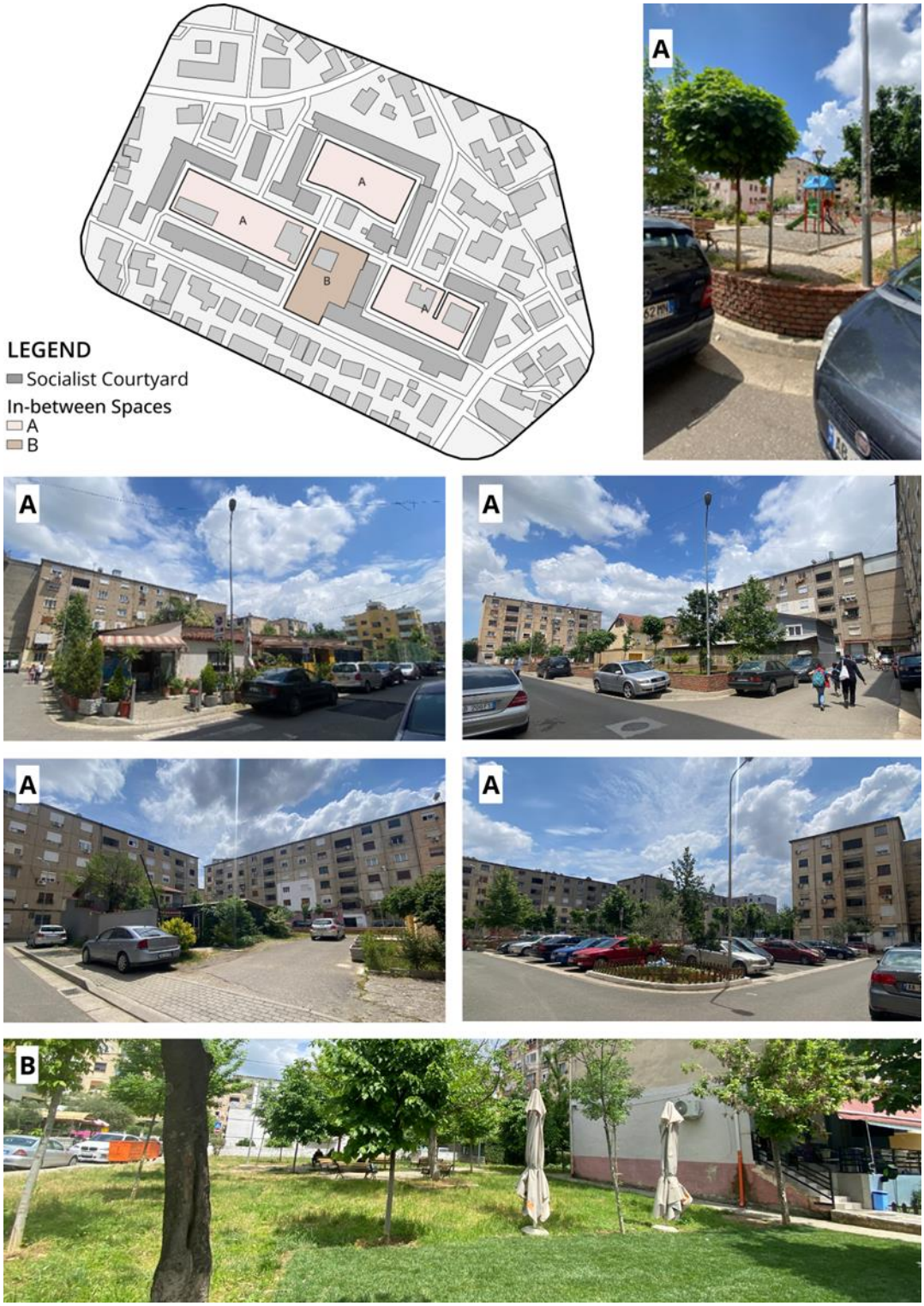


Figure 22. In-between spaces at "Riza Cuka"

Figure 22 are shown the in-between spaces in the “Riza Cuka” residential complex. All public spaces in this complex are concentrated in the form of a courtyard surrounded by buildings. In photos A we see that the public space is made up of different elements such as the presence of shops, green spaces, benches and sports fields. The public spaces are a mix of hardscape paved with concrete and stones where benches and playground areas are located, and the other part is green spaces with bushes and trees. Unlike the public spaces above, in this case some spaces are occupied by private residences surrounded by trees. And at the end of photo B is a complete green space with bushes, trees and benches where people sit and interact with each other.

Table 6. Characteristics of In-between spaces at "Riza Cuka"

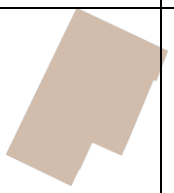
Socialist Courtyard	Shape	Area	Space	Use	Condition
A		1800M²	Closed	Playground, Green areas	Paved, Benches, Trees
B		1300M²	Semi-Opened	Green and Sitting Areas	Trees, Benches

Table 6 displays the Socialist Courtyard spaces and gives a brief detailed overview of each of its in-between spaces.

Space A is 1800 square meters in size and is referred to be closed, which means that it is surrounded by buildings. This courtyards has green spaces for outdoor enjoyment and is largely used as a playground and relaxing area. But in these spaces we see the presence of added buildings. The area is paved, has seats, and trees, creating a cozy and welcoming atmosphere. Space B has a 1300 square meter footprint with a semi-opened design. It provides a mix of green spaces and seating places, enabling a more flexible use..

Figure 23. "SIMA COM" Site

"SIMA Com", the complex is located at Rruga Nexho Konomi, 2.45 km from city center. Built in 2020 and has a total area around 40,501 SQM. The complex also consists of group of building blocks eight floors. Many different facilities are in the ground floor, unlike "Riza Cuka" complex where all floors are apartments except some of them built recently.

Figure 24 are shown the in-between spaces in the "SIMA COM" residential complex. All public spaces in this complex are concentrated in the form of a courtyard surrounded by buildings. In photos A we see that the public space is made up of different elements such as the presence of green spaces, benches and sports fields, also different facilities on the ground floor of the buildings. In the photos, the B public spaces is designed almost the same .There are a mix of hardscape paved with concrete and stone tiles ,also variations of green areas with colorful bushes ,trees and wood benches. An added element of the landscape is also the inclusion of the water element, such as the "pool in the center". In photos C, area shown spaces between blocks including street car, sidewalks paved and tree elements on them.

Figure 24. In-between spaces at "SIMA COM"

Table 7. Characteristics of In-between spaces at "SIMA COM"

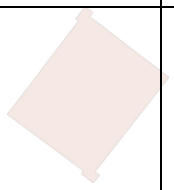
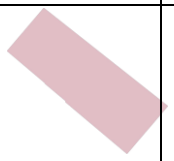
Post-Socialist Courtyard	Shape	Area	Space	Use	Condition
A		1800M²	Closed	Playground, Green areas	Paved, Benches, Trees
B		300M²	Semi-Opened	Green Areas	Paved, Benches, Trees
C		1600M²	Semi-Opened	Sidewalk, Car street	Paved, Trees

Table 7 displays the Post-Socialist Courtyard and gives a brief detailed overview of each of its in-between spaces.

There are three type of spaces in the post-socialist courtyard. The largest enclosed section, space A, has paved walkways, a playground, green spaces, seats, and trees. Space B is more compact and somewhat open, emphasizing green areas with paved walks, seats, and trees. Space C is also partially open and has a vehicle roadway with concrete streets and trees, as well as a sidewalk for accommodating both car and pedestrian traffic.

Table 8. General Information of the case studies selected

Typology	Name	Year of const.	No.buildings	No.floors	Area	Built Ratio
Tower	9 Kateshet	1983	3	9	10,1 Ha	1.9
	Garden Residence Turdiu	2019	3	12	26,7 Ha	3.5
Slab	Myslym Shyri	1970-1980	5	5	16,4 Ha	1.8
	Ish-fusha e Aviacionit	2004	9	8	20,9 Ha	2
Courtyard	Riza Cuka	1970-1980	8	6	37,3 Ha	1.7
	SIMA Com	2020	9	8	40,5 Ha	0.4

Table 8 provides information on various buildings categorized into different typologies: towers, slabs, and courtyards. Each building is identified by its name, year of construction, number of buildings within the complex, number of floors, area in hectares, and the built ratio.

In the tower category, "9 Kateshet," constructed in 1983, consists of three buildings with nine floors and spans an area of 101 hectares. Another tower called "Garden Residence." built in 2019, comprises three buildings with 12 floors and occupies a larger area of 26.7 hectares, indicating a denser built ratio of 3.5.

The slab typology includes "Myslym Shyri." constructed between 1970-1980, which encompasses five buildings, each with five floors, covering an area of 16.4 hectares and exhibiting a built ratio of 1.8. "Ish-fusha e Aviacionit," built in 2004, nine buildings with eight floors, spanning an area of 20.9 hectares and having a built ratio of 2.0.

The courtyard typology, "Riza Cuka," constructed between 1970 and 1980,

consists of eight buildings, each with six floors, sprawling across 37.3 hectares, with a built ratio of 1.7.The "SIMA Com" courtyard, completed in 2020, comprises nine buildings with eight floors, covering a significant area of 40.5 hectares, but exhibiting a relatively lower built ratio of 0.4

Overall, this table provides a snapshot of different building typologies, their characteristics, and the extent of built-up areas, allowing for a comparison of their densities as indicated by the built ratio.

In this section, the morphological characteristics of the six case study residential complexes are examined using syntax measurements, patterns of activity, and their relationships, as well as the street configuration and interaction of people.

4.1 Spatial-Configuration Analysis

Understanding how urban infrastructure is integrated and how urban planning affects accessibility begins with the selection of structures for study. Six buildings in total were chosen for this study's research. These buildings were chosen based on their building morphology and period of construction. Once the buildings were chosen, the analysis was initiated by considering all the buildings to analyze the integration and choice metrics in three different radii through QGis and Space Syntax Toolkit. These radii included R 200 (pedestrian level), R1000 (walking distance level), and R5000 (vehicle/car level). The selection of these radii was based on the premise that the built environment has different effects on mobility depending on the mode of transportation. Pedestrians, cyclists, and drivers all experience the built environment differently, and the choice of these radii reflected this reality.

The R 200 radius was chosen because it is the maximum distance that a person can safely walk in 2-3 minutes. The buildings within this radius were examined with an emphasis on the walking distance and pedestrian-friendly

infrastructure because it was thought of as the pedestrian level. On the other hand, the R1000 radius is the distance that can be reached by a person in about 15 minutes, which is the typical walking time for most individuals. The study inside of this radius, which was thought of as the walking distance level, concentrated on the accessibility of buildings for people who prefer to walk or bike. The vehicle/car level was ultimately chosen upon as the R5000 radius. This radius approximates to the distance that a person can drive in 30 minutes. The analysis concentrated on how easily people driving their own cars could reach the buildings.

By choosing these radii, it was possible to gain a thorough knowledge of the integration and preference metrics for various forms of transportation in the built environment. The analysis, which takes into account various radii, offers a thorough understanding of the built environment for various forms of transportation, assisting lawmakers and planners in making decisions that will increase accessibility in urban areas.

The integration and choice metrics examined in this research can influence social interaction in urban regions in addition to enhancing accessibility. Social interaction, a crucial aspect of urban living, can be facilitated by having access to public spaces and social amenitiesIncreased social interaction and a feeling of neighborhood belonging can result from this. Therefore, the integration and choice metrics examined in this research play a significant role in encouraging social interaction and community building within urban areas in addition to improving accessibility.

Figure 25 shows the generated integration maps with the target areas clearly identified for each of these radii. This study's integration analysis concentrated on three distinct radii, R200, R1000, and R5000, to obtain an in-depth understanding of the integration of urban amenities and infrastructure over a range of distances. Spectral colors like were used as a legend to create the integration maps. Red, represents areas with the greatest level of integration, and blue, represents areas with the lowest level of integration. It was easy and quick to spot the areas within each radius that had high and low levels of integration by visualizing the findings in this way.

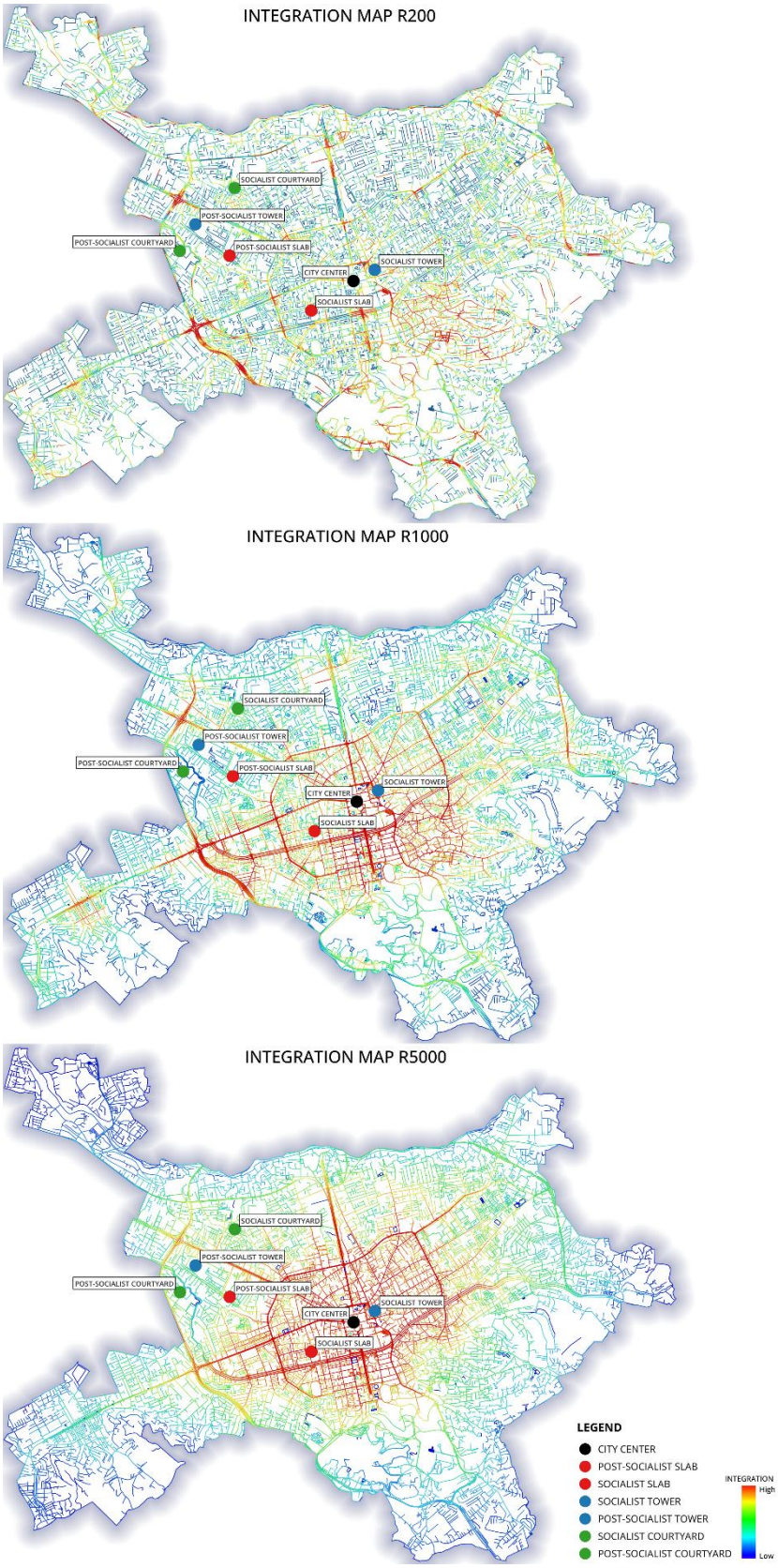


Figure 25. Urban spatial layout and the integration characteristics of the target areas based in three radii R200, R1000 and R5000.

After analysis of the integration maps, it was discovered that the city center had the highest degree of integration in comparison to the city's periphery. In the integration maps for the R1000 and R5000 radii, this tendency was more obvious. This finding can be attributed to the city's center serving as a hub for social interaction and community building due to the high concentration of urban infrastructure, facilities, and public areas there.

Table 9. Integration values of the selected sites for each radii.

Integration Table	**R200**	**R1000**	**R5000**
Socialist Tower	64	764	6,524
Post-Socialist Tower	55	358	3,773
Socialist Slab	39	363	5,416
Post-Socialist Slab	37	236	3,679
Socialist Courtyard	49	257	3,046
Post-Socialist Courtyard	22	102	2,397

According to the integration values at three various radii, the results shown in *Table 9* highlight the level of integration or segregation within each of the chosen sites. The greatest integration values show that the area has better connectivity and accessibility within its neighborhood, which may encourage resident socialization and a sense of community.

From the *Table 9* we can also understand which site has the highest values of integration for the 3 analyzed radii. Starting from Socialist Tower and Post-socialist Tower, the first one has the highest values of integration. The Socialist Slab is more integrated than Post-socialist Slab, meaning greater accessibility and connectivity within that area. Lastly, the last comparison, Socialist Courtyard is seen to dominate with higher values of integration compared to Post-socialist Courtyard.

To sum up, the Socialist Tower, Socialist Slab and Socialist Courtyard which are the complexes built during communist period, the level of integration appears higher than the post-socialist buildings.

Figure 26. Urban spatial layout and the locational characteristics of the target areas in terms of choice measurements based in three radii R200, R1000 and R5000.

Table 10. Choice measurement values of the selected sites for each radii.

Choice Table	**R200**	**R1000**	**R5000**
Socialist Tower	1272	223,455	30,735,724
Post-Socialist Tower	332	55,897	1,192,896
Socialist Slab	260	31,057	888,031
Post-Socialist Slab	263	60,027	9,431,409
Socialist Courtyard	615	28,454	1,201,720
Post-Socialist Courtyard	12	2,155	142,927

According to the choice values at three various radii, the results shown in *Table 10* highlight the values of choice measurements within each of the chosen sites. Sites with higher choice metrics, which indicate more resident-accessible paths, are more likely to promote social interaction and participation.

From the table we can also understand which site has the highest values of choice measurements for the 3 analyzed radii. Starting from Socialist Tower and Post-Socialist Tower, Socialist Tower has the highest values. Then continuing with Socialist Slab and Post-Socialist Slab, where Post-Socialist Slab is appears with higher values, meaning more pathways available for residents within that area. Lastly, the last comparison between Socialist Courtyard and Post-Socialist Courtyard, where Socialist Courtyard is seen to dominate with higher values.

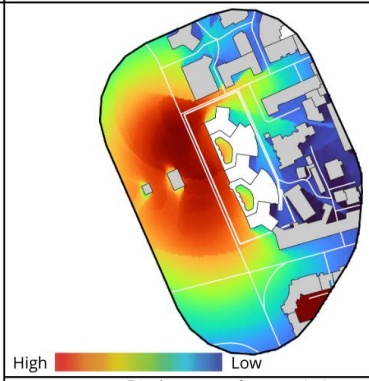
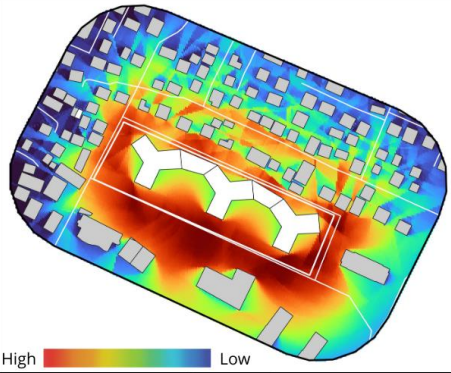
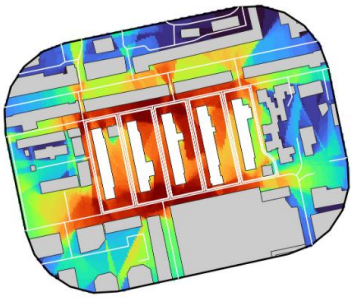
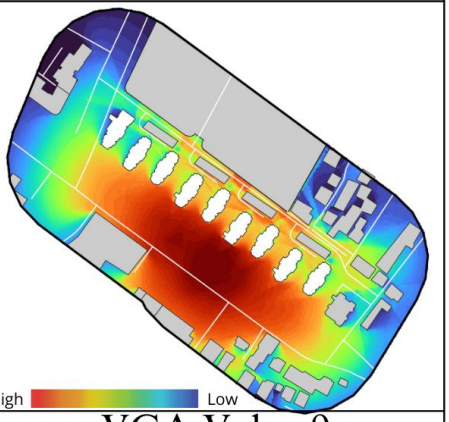
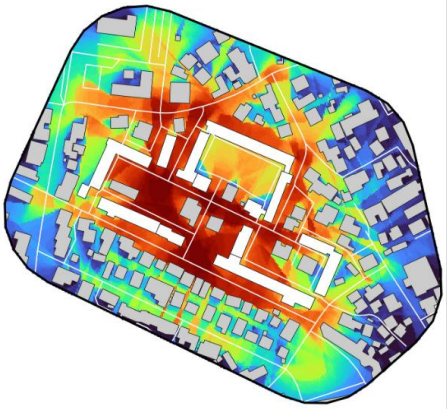
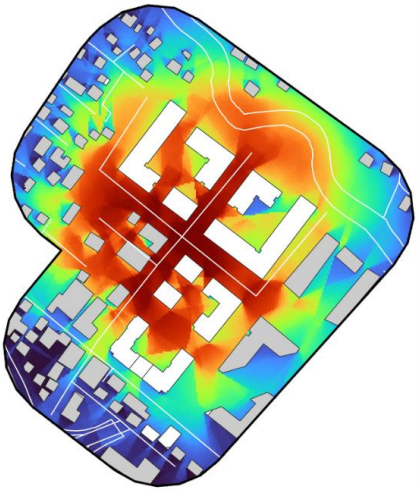
To sum up, Socialist Tower ,Socialist Slab and Socialist Courtyard which are the complexes built during communist period, the choice metric values appears higher than the contemporary buildings Post-Socialist Tower, Post-Socialist Slab and Post-Socialist Courtyard. Except, in this case the values for Post-Socialist Slab are higher than Socialist Slab.

4.2 Visibility Graph Analysis (VGA)

The Visibility Graph (VG) for each of the chosen residential complexes is examined in this part using a R100. In order to evaluate the visual connectivity and possible views within a particular region, the Visibility Graph is a technique used in site study and urban planning. Using this approach we gain insights how the built environment relates with the surrounding context and comprehend the visual links between various site features. One of the purpose of this research is to evaluate the importance and visibility of significant components within the chosen sites, such as buildings and in-between spaces. Also, by analyzing the VG for each of the sites selected, different opportunities can be recognized to improve design and layout, increase visual experiences, and make sure that the built environment is cohesively and harmoniously integrated with its surroundings by. This analysis will give us useful data for planning and decision-making in the future, allowing us to design lively and aesthetically pleasing environments that fully use the sites' potential.

Table 11 shows the visibility graph analysis in Radius 100 for each selected building typology. The analysis are presented both graphically through maps and through value. Spectral colors like were used as a legend to create the integration maps. Red, which represents areas with a high level of visibility, and blue, which represents areas with the lowest level of visibility. Additionally, the radius of 100 was chosen because the analysis area is relatively small because it is being done on residential complexes rather than on a neighborhood size. It makes it possible to cover a large area surrounding each point, making sure that any nearby areas or obstructions are taken into consideration.

Table 11. Visibility Graph Analysis

	Socialist	Post-Socialist
Tower		
	VGA Value 10	VGA Value 6
Slab		
	VGA Value 13	VGA Value 9
Courtyard		
	VGA Value 7	VGA Value 7

Starting with the analysis of the first typology between Socialist Tower and Postsocialist tower, we noticed that the highest value of visibility is seen in Socialist tower "9 - Kateshet". As can be seen from the graphic side, the area with red color, which shows that it is the highest visible area, is the one in front of the residential complex, next to the main road.

Then we continue with the analysis of the second typology between Socialist Slab and Post-Socialist Slab, where in this case we noticed that the highest value and visibility is seen to be in Socialist Slab "Myslym Shyri". As can be seen from the graphic side, the areas with red color, which shows that it is the highest visible area, are those on the side of the residential complexes, along the two main roads that limit the buildings. This is because the visual view between the buildings is free, since the distance from the building to the building is relatively acceptable.

And finally, we continue with the analysis of the third typology between Socialist Courtyard ”Riza Cuka” and Post-Socialist Courtyard “SIMA COM”, where in this case we noticed that the values of visibility are seen to be present in both complexes. As can be seen from the graphic side, the areas with red color, which indicates that it is the highest visible area, are those areas located in the center of the buildings. This is because these areas are relatively large, making the visual view towards the buildings and in- between spaces to be pleasant.

In conclusion, the analysis of the three typologies (Socialist Tower vs. Postsocialist Tower, Socialist Slab vs. Post-Socialist Slab, and Socialist Courtyard vs. Post-Socialist Courtyard) revealed distinct patterns of visibility. The Socialist Tower and Socialist Slab demonstrated higher visibility values compared to their post-socialist counterparts, indicating that the design and layout of the socialist buildings facilitated better visibility, particularly in areas adjacent to main roads and between buildings. However, in the case of Socialist Courtyard and Post-Socialist Courtyard, both complexes exhibited areas with high visibility, particularly in the central spaces. This suggests that larger open areas within the buildings contributed to pleasant visual views of the buildings and the spaces in-between.

4.3 Activity Pattern Analysis

Table 12. Activity Pattern Analysis

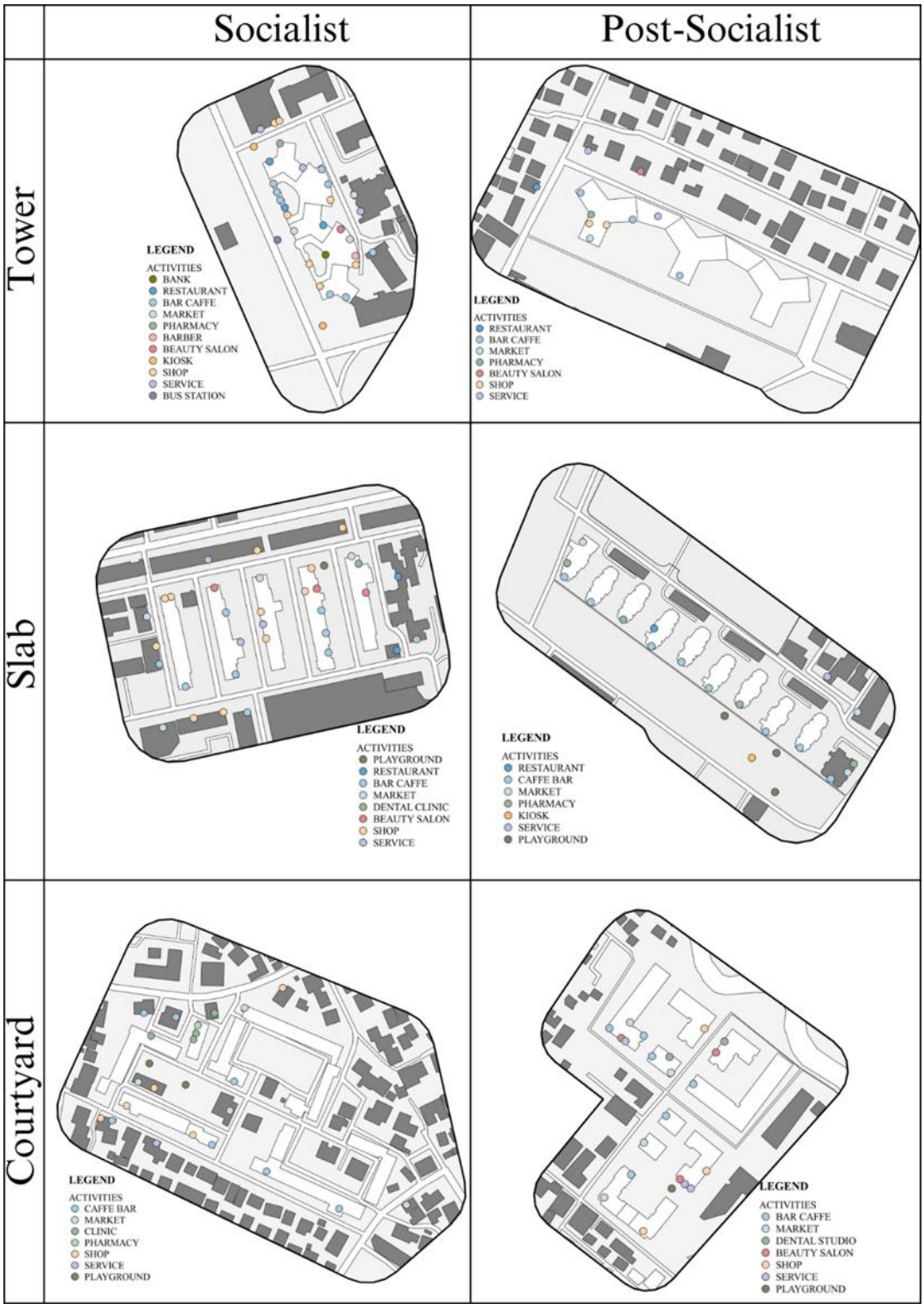


Table 12 shows the distribution of activities for each of the residential complexes selected.

Starting with the first typology Socialist/Post-Socialist Tower: the Socialist Tower appears to have a higher number of activities compared to Post-Socialist Tower. Also it is characterized by a more diverse range of facilities, services, transportation station, which support lively neighborhood feel. On the other hand, since a part of Post-Socialist Tower landscape is still in construction, therefore there are not many activities.

Second typology Socialist/Post-Socialist Slab: the Socialist Slab have a greater number of activities compared to the Post-Socialist Slab. Also it is characterized by a more diverse range of bar cafe, shops, facilities and services. On the other hand, the Post-Socialist Slab even though it does not have a lot of diverse activities, it offers a promenade full of green areas and playground activities.

Third typology Socialist/Post-Socialist Courtyard: the Socialist and post-socialist yard typologies seem to have a similar number and diversity of activities. But in the post-socialist courtyard we noticed the integration of different natural elements such as green spaces, water elements.

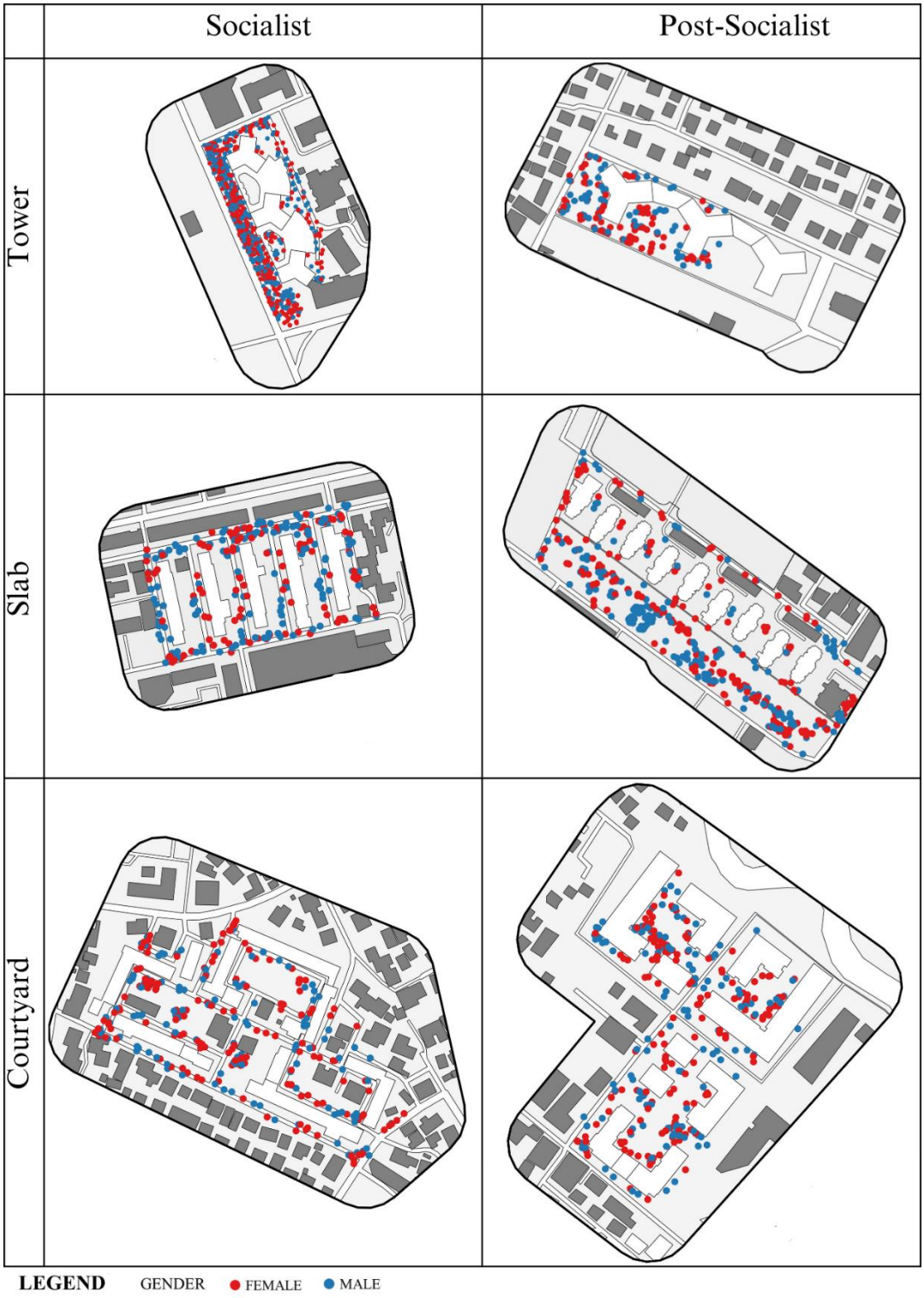
In overall, the analysis reveals that Socialist typologies (Tower and Slab) exhibit a greater number of activities compared to the Post-Socialist typologies. This can be linked to the communist era's increased emphasis on community-oriented architecture and the development of numerous communal amenities. But in the post-socialist buildings we noticed that recreational spaces are also incorporated, where people can spend their free time. The similarities in the amount of activity between socialism and post-socialist courtyards, however, shows that common areas were preserved or adapted during the post-socialist era.

4.4 Observations

The observation analysis of six residential complexes was conducted using QGIS software, categorizing them based on their typology and period of construction. The analysis focused on five different criteria: gender (female, male), age (child, adult, elder), activity (moving, sitting, standing), hour (morning, lunch and afternoon), and day (weekday and weekend). To visually represent the observation for each criterion, tables and charts were created, utilizing different colors to enhance the analysis.

The analysis revealed interesting insights into the residential complexes. By categorizing them based on typology and period of construction, patterns emerged regarding the distribution of different demographics and activities within each complex. The gender and age distributions varied across the complexes, with some complexes showing a higher proportion of females or males and a varying mix of age groups. The activity analysis shed light on how residents engaged within their complexes, showcasing patterns of movement, sitting, and standing. Furthermore, the observation of different hours and days provided a comprehensive view of the residential complexes' dynamics, illustrating potential variations in activity levels and behavior during different times of the day and week. The tables and charts, colored distinctly for each criteria, offered a visually appealing and informative representation of the observation analysis.

Table 13. Gender Observations



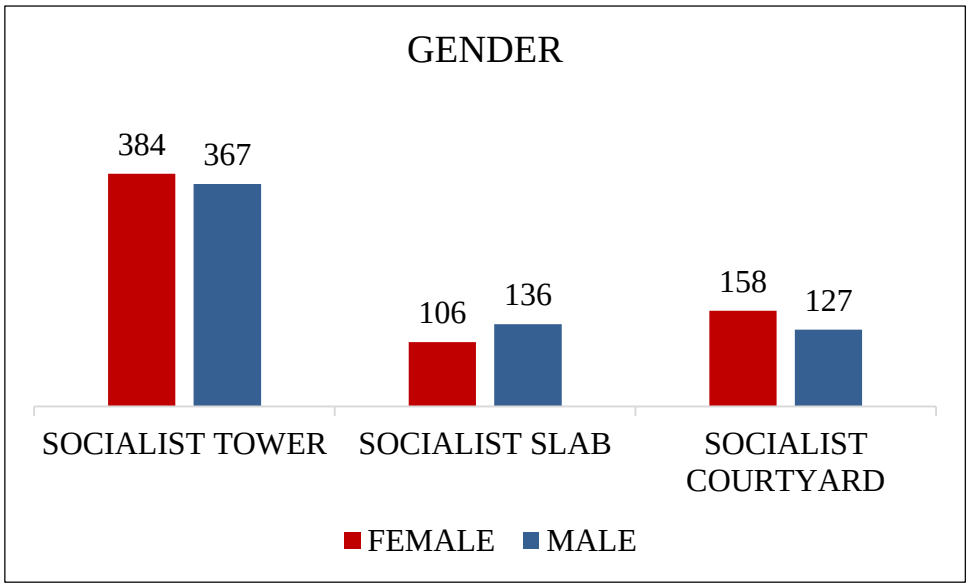


Figure 27. Gender Data of Socialist Buildings

Table 13 presents observations based on the genders of individuals residing in six different housing complexes: the Socialist Tower, Socialist Slab, Socialist Courtyard, the Post-Socialist Tower, Post-Socialist Slab, and Post-Socialist Courtyard. *Figure 27* indicates that within the Socialist Tower, there are 384 females and 367 males. In comparison, the Socialist Slab has 106 females and 136 males, while the Socialist Courtyard has 158 females and 127 males.

The Socialist Tower appears to have a relatively balanced representation of genders, with a slightly higher number of females. Conversely, the Socialist Slab shows a higher proportion of males compared to females. While the Socialist Courtyard also demonstrates a higher number of females, although the difference is less pronounced than in the Socialist Tower.

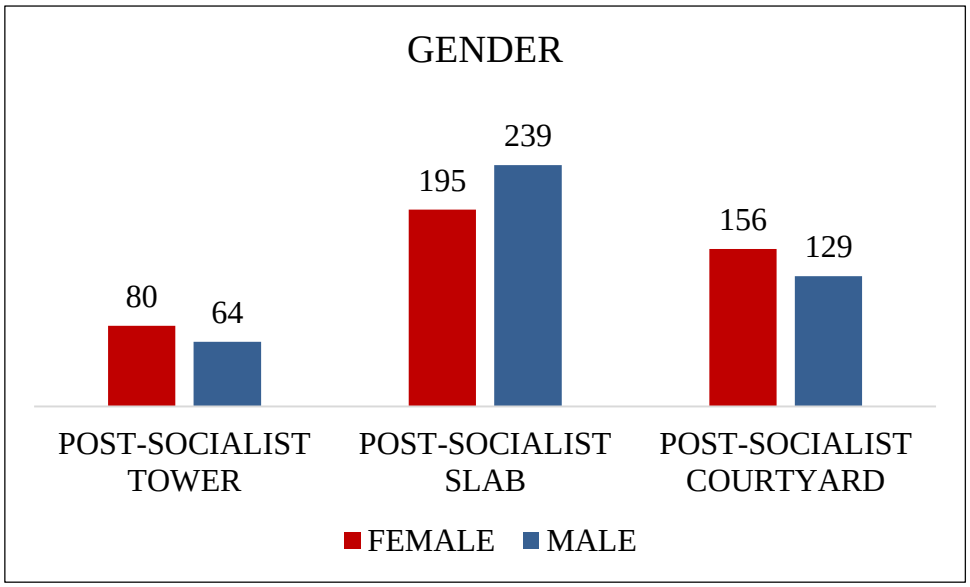


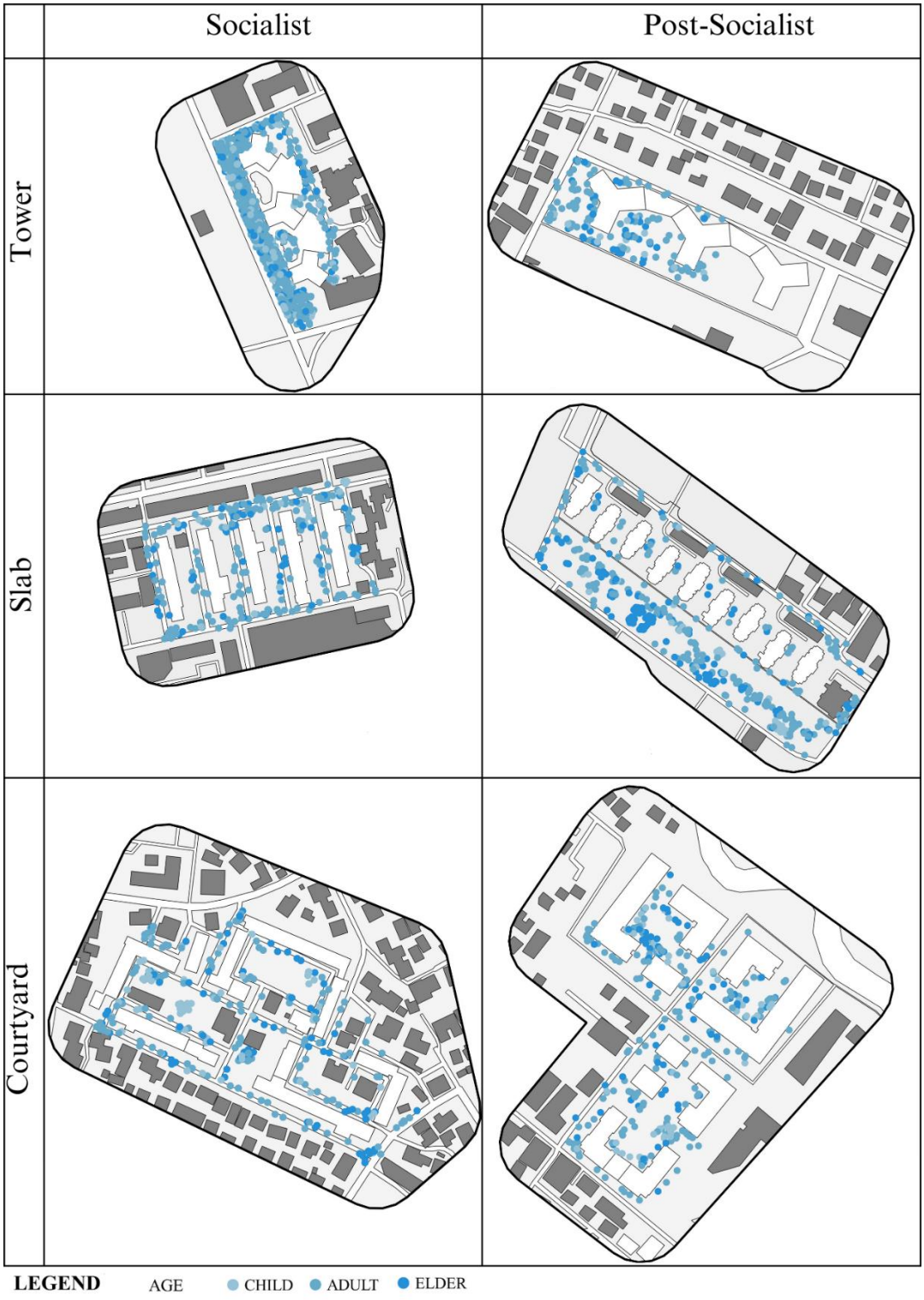
Figure 28. Gender Data of Post-socialist Buildings

According to *Figure 28*, the Post-Socialist Tower is inhabited by 80 females and 64 males. In the Post-Socialist Slab, there are 195 females and 239 males, while the Post-Socialist Courtyard comprises 156 females and 129 males.

These figures offer insights into the gender composition within these post-socialist housing complexes. Analyzing the data reveals that the Post-Socialist Tower has a slightly higher proportion of females compared to males. In contrast, the Post-Socialist Slab exhibits a greater number of males than females. Similarly, the Post-Socialist Courtyard has more females than males, although the difference is less pronounced than in the Post-Socialist Slab.

Overall, the Socialist Tower and Post-Socialist Tower show a relatively balanced representation of genders, while the Socialist Slab and Post-Socialist Slab have a higher proportion of males. The Socialist Courtyard and Post-Socialist Courtyard exhibit a higher number of females, although the difference is less pronounced compared to the Slab complexes.

Table 14. Age Observations



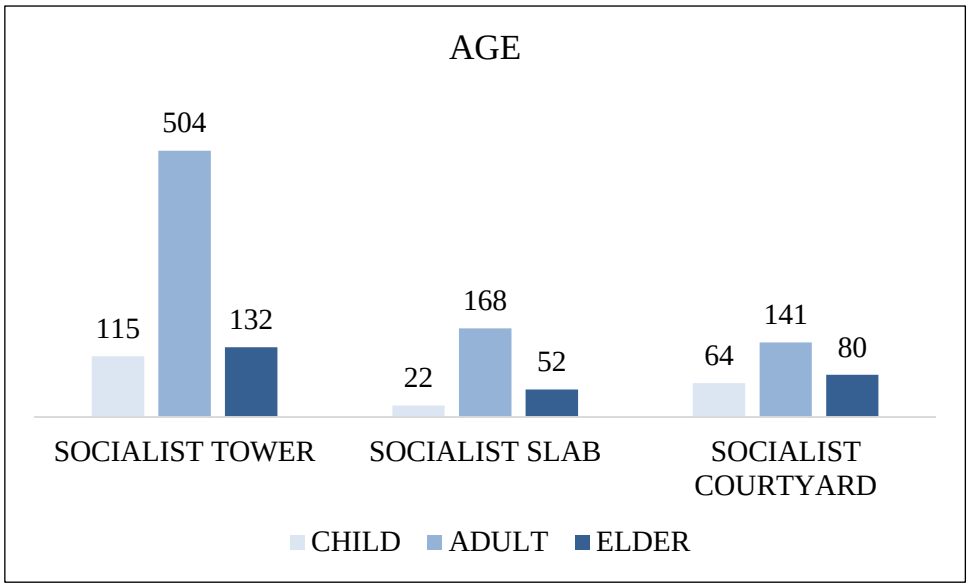


Figure 29. Age Data of Socialist Buildings

The table represents the distribution of residents across different age groups in six residential complexes: the Socialist Tower, Socialist Slab, Socialist Courtyard, the Post-Socialist Tower, Post-Socialist Slab, and Post-Socialist Courtyard. The age groups are categorized as Child, Adult, and Elder.

Figure 29 shows that in the Socialist Tower, there are 115 children, 504 adults, and 132 elderly residents. This tower seems to have a higher number of adults compared to the other age groups. The Socialist Slab has 22 children, 168 adults, and 52 elderly residents. While the number of children is relatively lower in this housing unit, it still accommodates a significant number of adults and a moderate number of elderly individuals. Lastly, the Socialist Courtyard has 64 children, 141 adults, and 80 elderly residents. This housing unit appears to have a relatively balanced distribution across all age groups, with a moderate number of children, adults, and elderly residents.

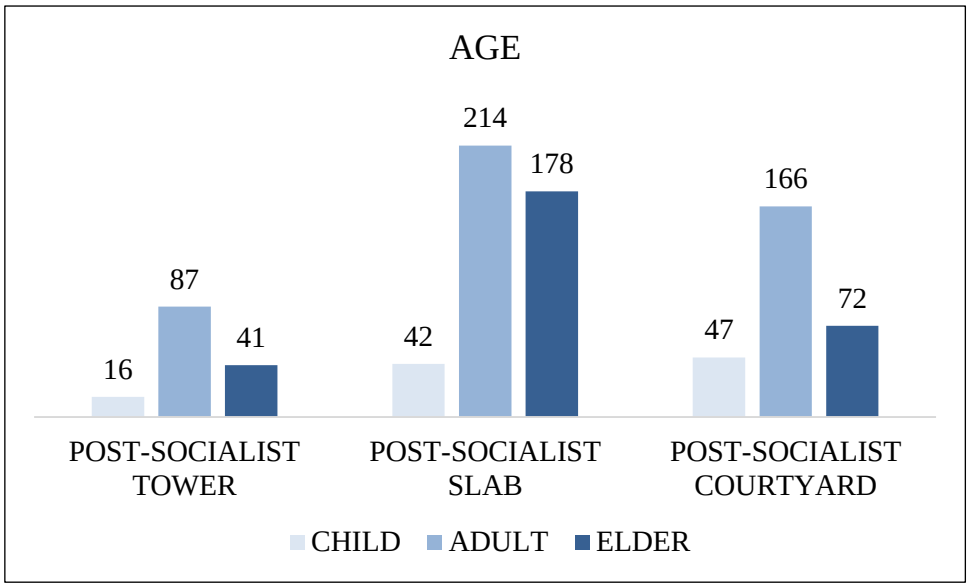


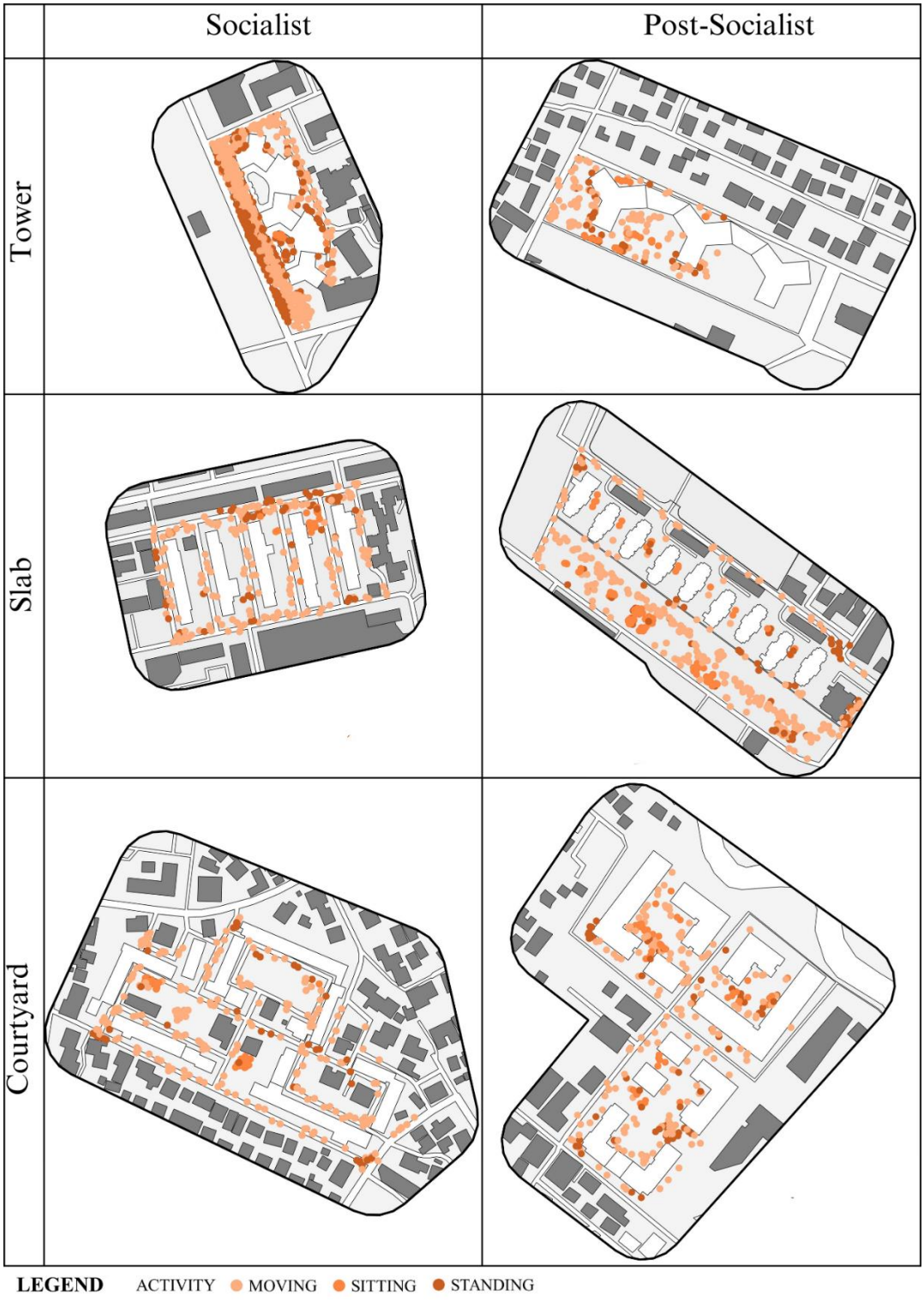
Figure 30. Age Data of Post-socialist Buildings

Figure 30 shows that the Post-Socialist Tower has 16 children, 87 adults, and 41 elderly residents. This tower has a relatively smaller population, with a lower number of children compared to adults and a moderate number of elderly individuals. Moving on to the Post-Socialist Slab, it houses 42 children, 214 adults, and 178 elderly residents. This housing unit seems to have a significant population across all age groups, with a notable number of adults and elderly residents.

Additionally, the number of children is higher compared to the Post-Socialist Tower. Lastly, the Post-Socialist Courtyard comprises 47 children, 166 adults, and 72 elderly residents. This housing unit displays a similar pattern to the Post-Socialist Tower, with a relatively smaller population. It has a moderate number of children, adults, and elderly individuals, with a slightly higher number of adults.

Overall, the Socialist housing units have a higher concentration of adults, while the Post-Socialist units have a relatively larger population of children.

Table 15. Activity Observations



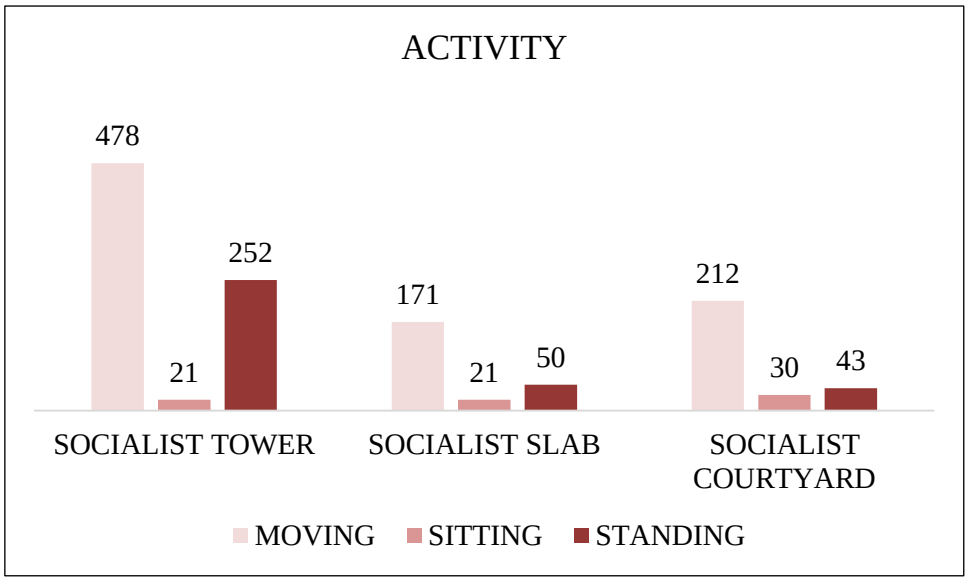


Figure 31. Activity Data of Socialist Buildings

Table 15 presents an observation of people's activities within different socialist spaces: the Socialist Tower, Socialist Slab, Socialist Courtyard, Post-Socialist Tower, Post-Socialist Slab, and Post-Socialist Courtyard. The data is categorized into three activity types: moving, sitting, and standing. In the Socialist Tower, there were 478 individuals observed engaged in some form of movement, indicating a bustling environment.

However, a smaller number of people, only 21, were observed sitting, suggesting that most individuals preferred to be on the move. On the other hand, standing was a more common activity, with 252 individuals observed doing so. Moving on to the Socialist Slab, the number of individuals engaged in movement decreased to 171, while the number of people sitting and standing remained the same as in the Socialist Tower, with 21 and 50 individuals respectively. Finally, in the Socialist Courtyard, 212 individuals were observed moving, while 30 were sitting and 43 were standing.

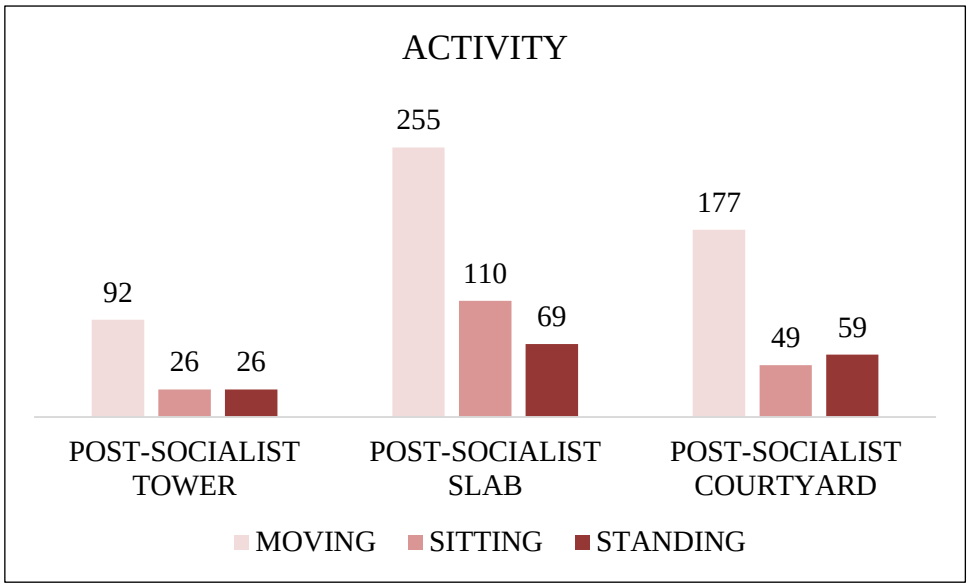
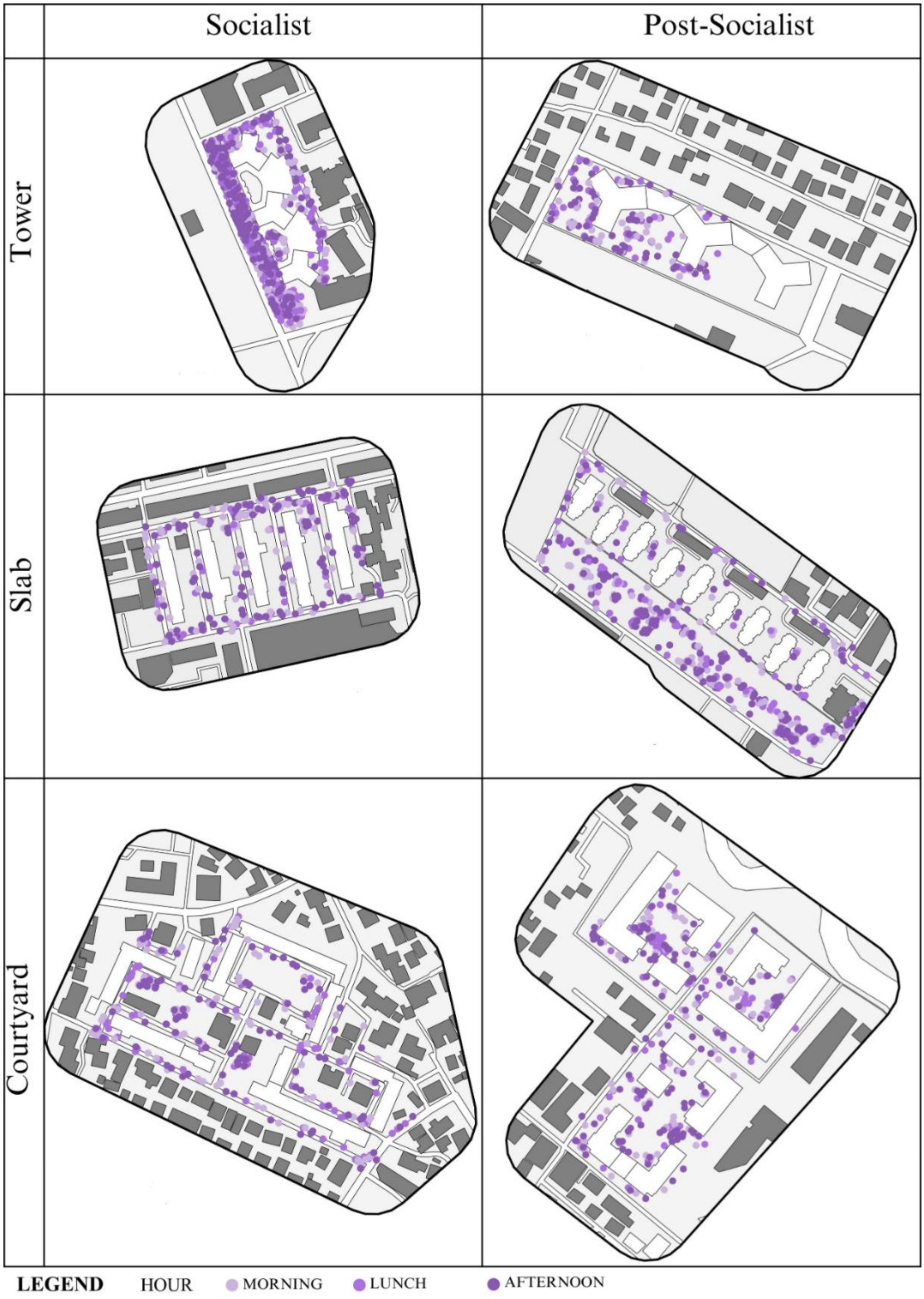


Figure 32. Activity Data of Post-socialist Buildings

In the Post-Socialist Tower, there were 92 individuals observed moving, showing a relatively moderate level of activity within the space. Additionally, 26 people were seen sitting, possibly indicating areas where people could rest or engage in sedentary activities like benches. Another 26 individuals were observed standing, indicating that there were individuals who potentially engage in conversations or observe their surroundings or waiting in bus station. Moving to the Post-Socialist Slab, with 255 people actively moving throughout the area. This suggests a livelier environment compared to the Post-Socialist Tower. Moreover, 110 individuals were observed sitting. There were also 69 individuals standing. Lastly, in the Post-Socialist Courtyard, 177 individuals were observed in motion, suggesting a relatively active atmosphere. Additionally, 49 individuals were seen sitting, indicating the presence of seating arrangements or areas for people to rest. Furthermore, 59 individuals were observed standing, indicating that there were social interactions or people actively engaging with their surroundings in this area.

Overall, the observations indicate that the socialist spaces tended to have higher levels of movement and standing, with relatively fewer individuals sitting. In contrast, the post-socialist spaces displayed a similar trend, but with a higher overall level of activity and a more balanced distribution between sitting and standing.

Table 16. Hour Observations



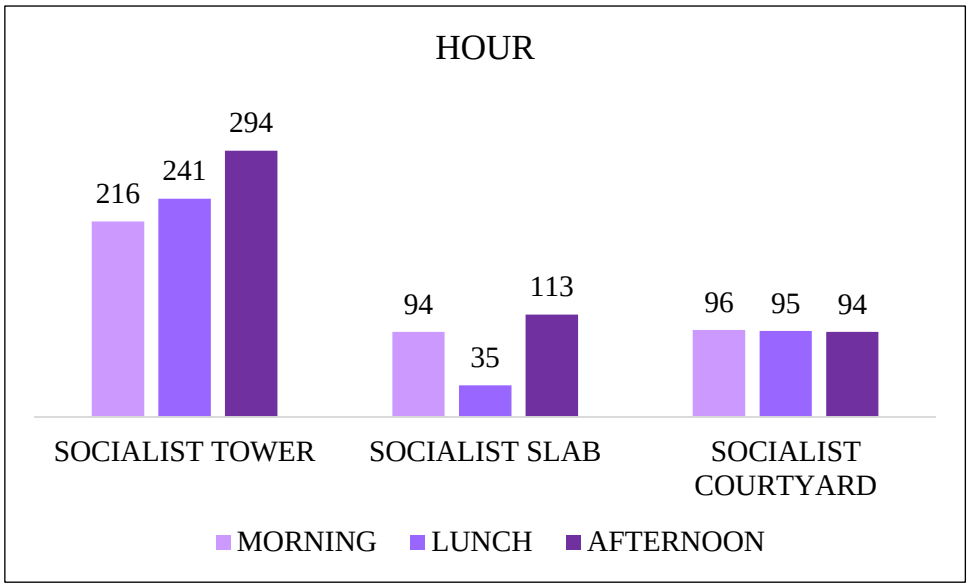


Figure 33. Hour Data of Socialist Buildings

Table 16 represents the observation of people at six different locations, namely Socialist Tower, Socialist Slab, Socialist Courtyard, Post-Socialist Tower, Post-Socialist Slab, and Post-Socialist Courtyard based on three different time slots: morning, lunch, and afternoon.

During the first time slot from 9:00-9:30, the Socialist Tower recorded the highest number of people with 216 individuals present. Following closely behind was the Socialist Slab with 94 people from 10:00-10:30. The Socialist Courtyard had 96 individuals during 8:30-9:00. Moving to the second time slot from 13:00-13:30, The Socialist Tower observed an increase in the number of people, reaching 241 individuals. In contrast, the Socialist Slab had a significant decrease, with only 35 people present from 14:00-14:30. The Socialist Courtyard maintained a relatively stable number with 95 individuals from 15:00-15:30.

Finally, during the last time slot from 17:30-18:00, the Socialist Tower witnessed the highest number of people throughout the day, with a total of 294 individuals present. The Socialist Slab experienced an increase to 113 individuals from 18:30-19:00, indicating a busier period. Meanwhile, The Socialist Courtyard had the lowest number during this time slot, with 94 individuals from 17:00-17:30.

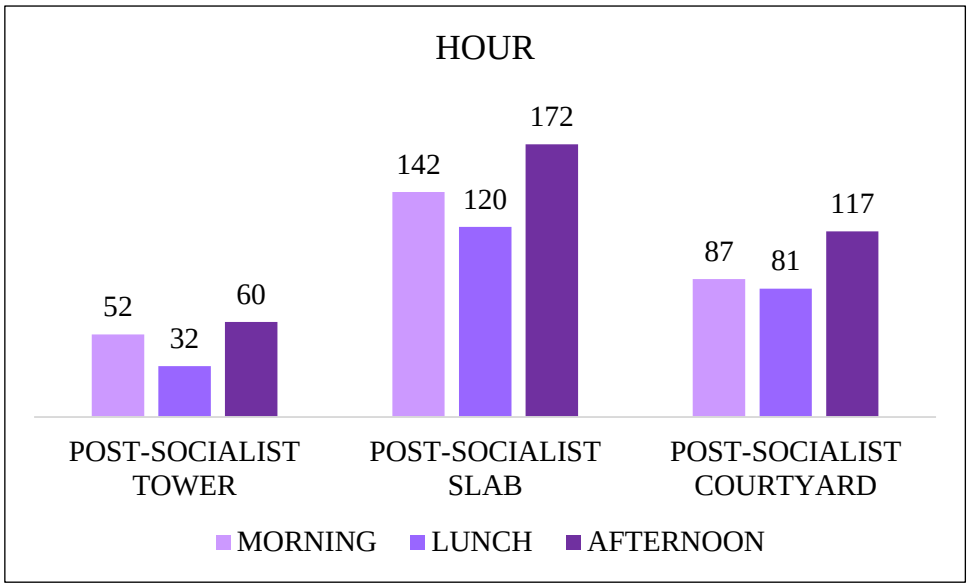


Figure 34. Hour Data of Post-socialist Buildings

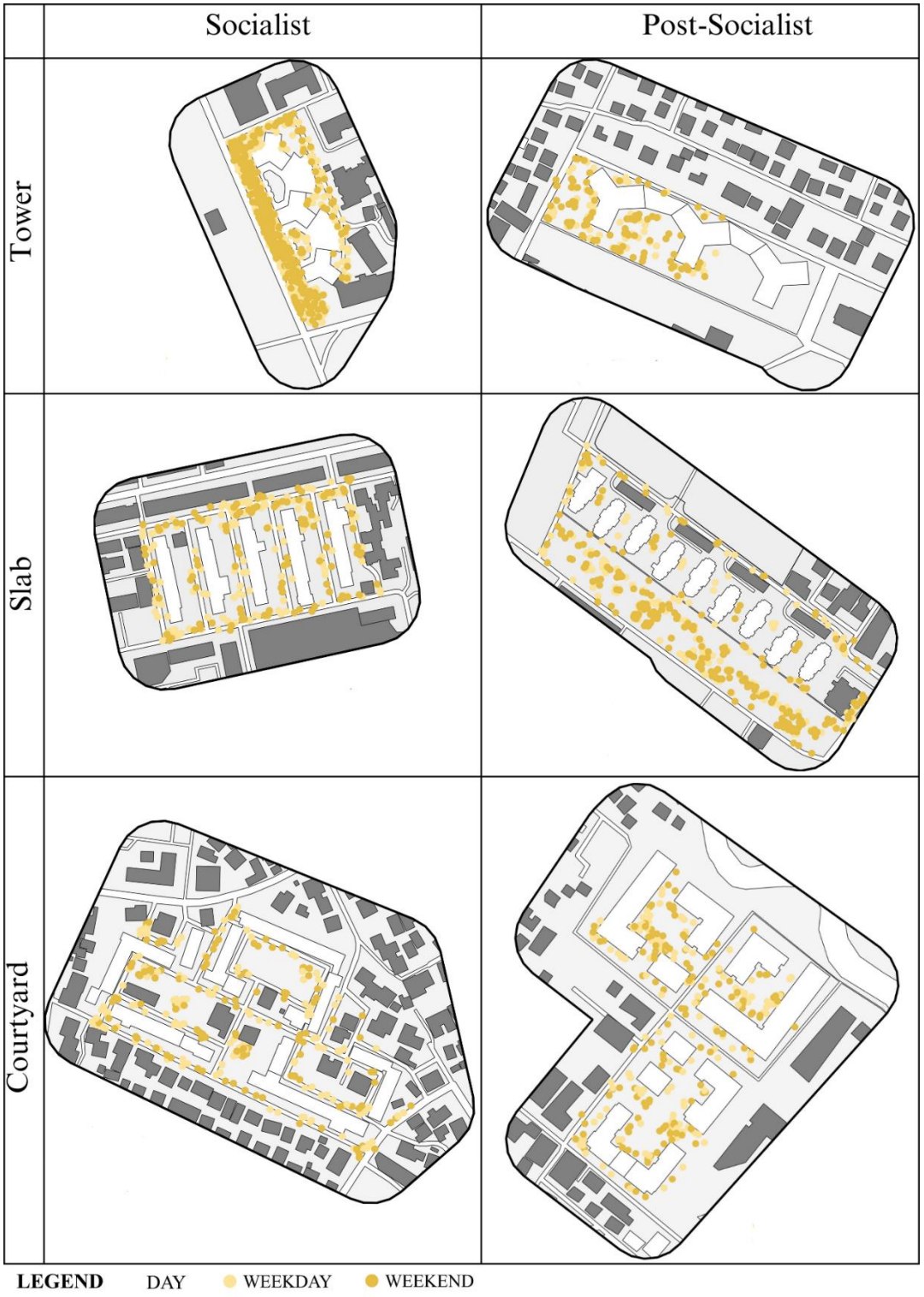
In the first time slot from 10:00-10:30, the Post-Socialist Tower had 52 individuals present. The Post-Socialist Slab recorded a higher number with 142 people from 9:00-9:30, while the Post-Socialist Courtyard had 87 individuals during this period from 10:15-10:45.

Moving to the second time slot from 14:00-14:30, the Post-Socialist Tower experienced a decrease in the number of people, with 32 individuals present. Similarly, the Post-Socialist Slab observed a decline to 120 individuals from 13:00-13:30. The Post-Socialist Courtyard also had a decrease with 81 individuals from 15:00-15:30.

From 17:00-17:30 the Post-Socialist Tower had 60 individuals, while the Post-Socialist Slab recorded 172 individuals from 18:30-19:00, indicating a higher visitor count. The Post-Socialist Courtyard also experienced an increase with 117 individuals from 17:45-18:15.

Overall, the Socialist Tower consistently attracted the highest number of people across all time slots, while the Post-Socialist Slab had the highest count among the post-socialist locations.

Table 17. Day Observations



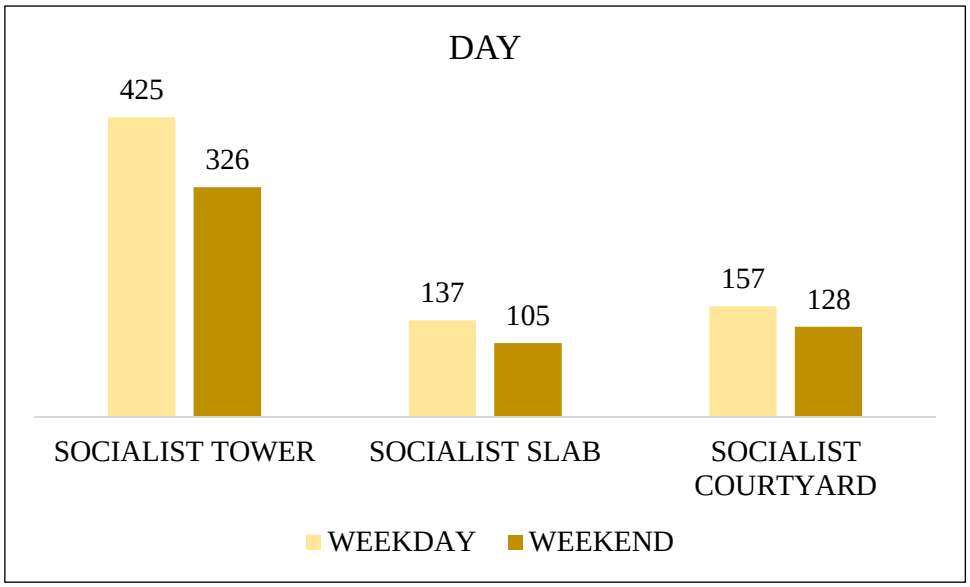


Figure 35. Day Data of Socialist Buildings

Table 17 observations of people observed in six different locations, specifically the Socialist Tower, Socialist Slab, Socialist Courtyard, Post-Socialist Tower, Post-Socialist Slab, and Post-Socialist Courtyard categorized by weekdays and weekends. *Figure 35* shows that on a typical weekday, specifically Monday, the Socialist Tower had 425 people, while the Socialist Slab had 137 people and the Socialist Courtyard had 157 people. However, on weekends, specifically Saturdays, the number of people decreased slightly across all locations. The Socialist Tower had 326 people, the Socialist Slab had 105 people, and the Socialist Courtyard had 128 people.

These observations suggest that the Socialist Tower remains the most popular location throughout both weekdays and weekends because of the location and presence of bus station, followed by the Socialist Courtyard and the Socialist Slab. It is interesting to note that there are less people overall on weekends compared to weekdays, suggesting that certain areas may be visited more frequently during weekdays owing to work or other responsibilities.

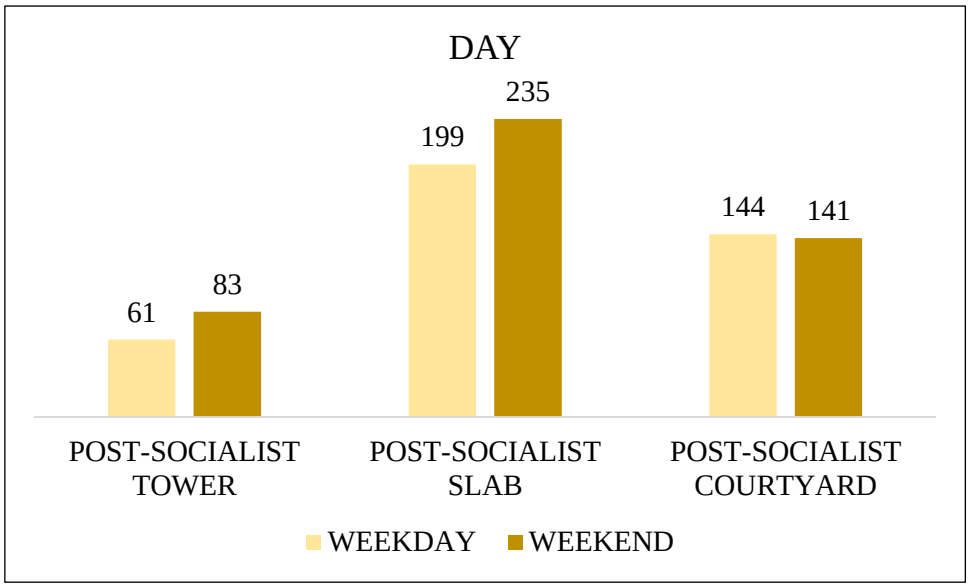


Figure 36. Day Data of Post-socialist Buildings

Figure 36 provides data on the number of people observed in three different locations: the Post-Socialist Tower, Post-Socialist Slab, and Post-Socialist Courtyard. The numbers are categorized into weekdays and weekends. On a typical weekday Wednesday, the Post-Socialist Tower had 61 people, while the Post-Socialist Slab had 199 people and the Post-Socialist Courtyard had 144 people. On Sunday the Post-Socialist Tower had 83 people, the Post-Socialist Slab had 235 people, and the Post-Socialist Courtyard had 141 people. These observations indicate that the Post-Socialist Slab is the most popular location on both weekdays and weekends, followed by the Post-Socialist Courtyard and the Post-Socialist Tower.

In conclusion, it can be said that the Socialist Tower is the most popular location on both weekdays and weekends, followed by the Socialist Courtyard and the Socialist Slab. The Post-Socialist Slab, on the other hand, emerges as the most popular location during both weekdays and weekends, followed by the Post-Socialist Courtyard and the Post-Socialist Tower. Additionally, there is a slight decrease in the number of people observed on weekends compared to weekdays across all locations. These findings suggest that these locations may be more frequented during weekdays, potentially due to work or other commitments.

Table 18. Overlap Map of Activities, observations and Visibility analysis

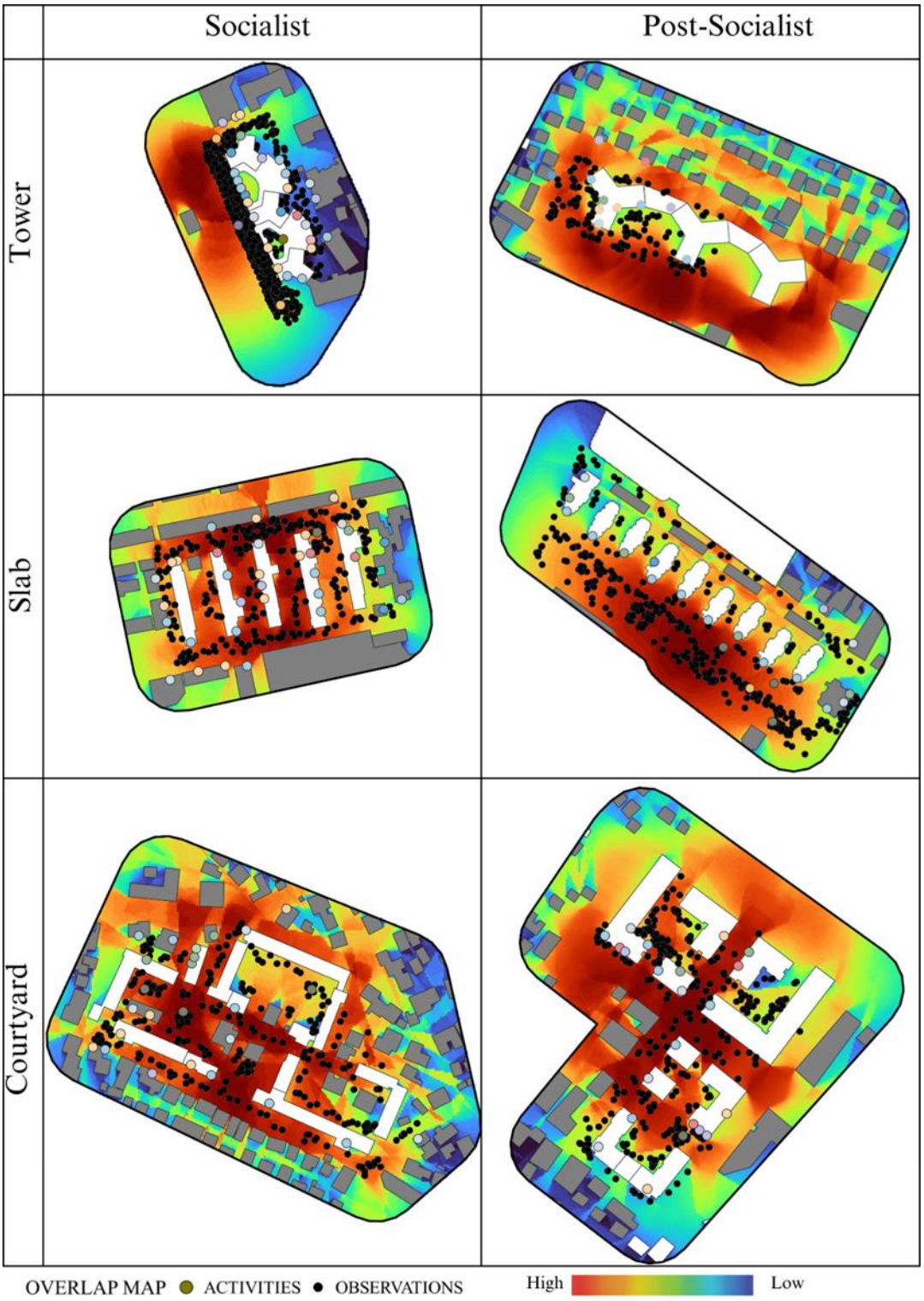


Table 18 shows all the data overlapped including Visibility Graph Analysis, activities and observations for each of the residential complexes.

It has been found that places with more visibility and more activity likely to also have more people present is consistent with the principles related to social interaction and behavior in urban settings. When creating urban places, visibility is essential for drawing people in and promoting social interaction.

People can see and be seen when there is high visibility, which fosters a sense of security, openness, and a sense of connection People feel more at ease participating in activities, communicating with others, and being out in public when they can see their surroundings well. Low visibility areas, on the other hand, can be thought of as hidden, isolated, or even hazardous, which would result in less foot traffic and less social contact. Additionally, the existence of activity in a place sparks curiosity and draws visitors. Activities can include everything from pleasant and relaxing activities to practical and routine duties. Walking, running, playing sports, interacting with others, sitting at outdoor cafés, and attending cultural events are a few examples. These activities give a place a sense of vigor and vibrancy, enhancing its appeal and enticing visitors to stay around.

Overall, after examining all the maps, we found that where visibility is better and there are more activities, there are also more people present. Whether they're standing, sitting, or moving.

Table 19. Data about frequency, activities, VGA, and total avg.Weight

Site	Space	No. People	Area (Ha)	Frequency	Frequency Weight	Freq. Weight Correction	No.Activities	Avg. Activity Weight	Activity Weight	Act. Weight Correction	Avg. VGA	Weight of VGA	Total Avg.Weight	Tot.Avg.Weight Correction
Socialist Tower	A	24	0.074	324	62.4	55.9	8	7.3	82.4	73.8	7.2	83.7	172.7	213.4
	B	361	0.15	2407	100[1]	89.6	10	7.3	83.0	74.3	8.6	100.0	216.3	263.9
	C	26	0.05	520	100	89.6	4	8.8	99.4	89.1	7.3	84.9	227.7	263.6
	D	30	0.099	303	58.3	52.2	6	2.2	25.0	22.4	4.7	54.7	101.5	129.3
Post-socialist Tower	A	37	0.33	112	21.6	21.6	3	4.7	53.4	53.5	5.5	64.0	96.3	139.1
	B	52	0.325	160	30.8	30.8	2	8	90.9	91.1	6.2	72.1	145.7	194.0
	C	32	0.12	267	51.3	51.4	3	7	79.5	79.7	6	69.8	154.1	200.9
	D	11	0.06	183	35.3	35.3	0	0	0.0	0.0	5.6	65.1	57.0	100.4
Socialist Slab	A	50	0.521	96	18.5	18.5	9	4.8	54.5	54.5	5.4	62.8	93.9	135.8
	B	92	0.338	272	52.3	52.3	9	5.3	60.2	60.2	6	69.8	135.8	182.3
Post-socialist Slab	A	308	1.186	260	49.9	55.3	14	7.3	83.0	91.9	7.4	86.0	161.6	233.3
	B	40	0.664	60	11.6	12.8	1	7	79.5	88.1	6.3	73.3	115.5	174.2
	C	19	0.348	55	10.5	11.6	1	4	45.5	50.4	5.8	67.4	78.4	129.4
Socialist Courtyard	A	68	0.726	94	18.0	19.5	5	5.4	61.4	66.4	4.8	55.8	98.0	141.7
	B	29	0.214	136	26.1	28.2	0	0	0.0	0.0	5.4	62.8	47.0	91.0
Post-socialist Courtyard	A	140	0.698	201	38.6	58.3	4	6.8	77.3	116.8	5.5	64.0	137.2	239.1
	B	49	0.334	147	28.2	42.7	7	5.7	64.8	97.9	5.6	65.1	114.7	205.7
	C	34	0.388	88	16.9	25.5	5	4.4	50.0	75.6	6.3	73.3	91.3	174.3

[1] Value is changed because of the context

Table 19 provides a comparative analysis of different space types based on various metrics such as frequency, area, activities, VGA values, and their respective weights. The data allows for an assessment of the characteristics and utilization of each space category within the specified sites.

Socialist Tower:

Space A: This space has 24 people within an area of 0.07 hectares, resulting in a high frequency of 324 people per hectare. The weight assigned to this frequency is 62.4. There are 8 activities taking place in this space, with an average activity weight of 7.3. The specific activity weight is 82.4. The average visibility graph analysis (VGA) value is 7.2, and it has a weight of 83.7. The total average weight for this space is 172.7.

Space B: With a higher population of 361 people within a larger area of 0.15 hectares, the density is 2407 people per hectare. The weight assigned to this frequency is 100.0. There are 10 activities happening in this space, with an average activity weight of 7.3. The specific activity weight is 83.0. The average VGA value is 8.6, with a weight of 100.0. The total average weight for this space is 216.3.

Space C: This space has 26 people within an area of 0.05 hectares, resulting in a high frequency of 520 people per hectare. The weight assigned to this frequency is 100.0. There are 4 activities taking place in this space, with an average activity weight of 8.8. The specific activity weight is 99.4. The average VGA value is 7.3, with a weight of 84.9. The total average weight for this space is 227.7.

Space D: With 30 people within an area of 0.1 hectares, the frequency is 303 people per hectare. The weight assigned to this frequency is 58.3. There are 6 activities happening in this space, with an average activity weight of 2.2. The specific activity weight is 25.0. The average VGA value is 4.7, with a weight of 54.7. The total average weight for this space is 101.5.

Post-socialist Tower:

Space A: This space has 37 people within an area of 0.33 hectares, resulting in a frequency of 112 people per hectare. The weight assigned to this frequency is 21.6. There are 3 activities taking place in this space, with an average activity weight of 4.7. The specific activity weight is 53.4. The average VGA value is 5.5, with a weight of 64.0. The total average weight for this space is 96.3.

Space B: With 52 people within an area of 0.33 hectares, the frequency is 160 people per hectare. The weight assigned to this frequency is 30.8. There are 2 activities happening in this space, with an average activity weight of 8.0. The specific activity weight is 90.9. The average VGA value is 6.2, with a weight of 72.1. The total average weight for this space is 145.7.

Space C: This space has 32 people within an area of 0.12 hectares, resulting in a frequency of 267 people per hectare. The weight assigned to this frequency is 51.3. There are 3 activities taking place in this space, with an average activity weight of 7.0. The specific activity weight is 79.5. The average VGA value is 6.0, with a weight of 69.8. The total average weight for this space is 154.1.

Space D: With 11 people within an area of 0.06 hectares, the frequency is 183 people per hectare. The weight assigned to this frequency is 35.3. There are no activities reported in this space, resulting in an activity weight of 0.0. The average VGA value is 5.6, with a weight of 65.1. The total average weight for this space is 57.0.

Socialist Slab:

Space A: This space has 50 people within an area of 0.52 hectares, resulting in a frequency of 96 people per hectare. The weight assigned to this frequency is 18.5. There are 9 activities taking place in this space, with an average activity weight of 4.8. The specific activity weight is 54.5. The average VGA value is 5.4, with a weight of 62.8. The total average weight for this space is 93.9.

Space B: With 92 people within an area of 0.34 hectares, the frequency is 272 people per hectare. The weight assigned to this frequency is 52.3. There are 9 activities happening in this space, with an average activity weight of 5.3. The specific activity weight is 60.2. The average VGA value is 6.0, with a weight of 69.8. The

total average weight for this space is 135.8.

Post-socialist Slab:

Space A: This space has 308 people within an area of 1.19 hectares, resulting in a frequency of 260 people per hectare. The weight assigned to this frequency is 49.9. There are 14 activities taking place in this space, with an average activity weight of 7.3. The specific activity weight is 83.0. The average VGA value is 7.4, with a weight of 86.0. The total average weight for this space is 161.6.

Space B: With 40 people within an area of 0.66 hectares, the frequency is 60 people per hectare. The weight assigned to this frequency is 11.6. There is 1 activity reported in this space, with an activity weight of 7.0. The specific activity weight is 79.5. The average VGA value is 6.3, with a weight of 73.3. The total average weight for this space is 115.5.

Space C: This space has 19 people within an area of 0.35 hectares, resulting in a frequency of 55 people per hectare. The weight assigned to this frequency is 10.5. There is 1 activity reported in this space, with an activity weight of 4.0. The specific activity weight is 45.5. The average VGA value is 5.8, with a weight of 67.4. The total average weight for this space is 78.4.

Socialist Courtyard:

Space A: This space has 68 people within an area of 0.73 hectares, resulting in a frequency of 94 people per hectare. The weight assigned to this frequency is 18.0. There are 5 activities taking place in this space, with an average activity weight of 5.4. The specific activity weight is 61.4. The average VGA value is 4.8, with a weight of 55.8. The total average weight for this space is 98.0.

Space B: With 29 people within an area of 0.21 hectares, the frequency is 136 people per hectare. The weight assigned to this frequency is 26.1. There are no activities reported in this space, resulting in an activity weight of 0.0. The average VGA value is 5.4, with a weight of 62.8. The total average weight for this space is 47.0.

Post-socialist Courtyard:

Space A: This space has 140 people within an area of 0.7 hectares, resulting in a frequency of 201 people per hectare. The weight assigned to this frequency is 38.6. There are 4 activities taking place in this space, with an average activity weight of 6.8. The specific activity weight is 77.3. The average VGA value is 5.5, with a weight of 64.0. The total average weight for this space is 137.2.

Space B: With 49 people within an area of 0.33 hectares, the frequency is 147 people per hectare. The weight assigned to this frequency is 28.2. There are 7 activities happening in this space, with an average activity weight of 5.7. The specific activity weight is 64.8. The average VGA value is 5.6, with a weight of 65.1. The total average weight for this space is 114.7.

Space C: This space has 34 people within an area of 0.39 hectares, resulting in a frequency of 88 people per hectare. The weight assigned to this frequency is 16.9. There are 5 activities reported in this space, with an average activity weight of 4.4. The specific activity weight is 50.0. The average VGA value is 6.3, with a weight of 73.3. The total average weight for this space is 91.3.

Overall, there are large differences in space frequency between various types. The highest population densities are seen in Socialist Tower and Socialist Slab, whereas Post-socialist Tower and Post-socialist Slab have lower densities. Different places have different numbers of activities, with some areas having more activities than others. Generally, spaces in the socialist buildings, generally have more activities compared to the spaces in the post-socialist ones.

The average visibility graph analysis (VGA) values indicate the visibility and openness of spaces. Post-socialist Tower and Post-socialist Slab tend to have higher VGA values, suggesting better visibility. The total average weights for each space provide an overall assessment of their characteristics and utilization. Spaces in the post-socialist categories generally have higher total average weights compared to the socialist categories.

To conclude, post-socialist spaces tend to have lower population densities, higher average VGA values, more activities, and higher total average weights compared to the socialist spaces.

CHAPTER 5

5.1 Results and Discussion

To better understand and compare the efficacy of different in-between spaces and building typologies in facilitating social interaction, it is important to consider several factors: frequency weight, activity weight, visibility weight, and total weight. These factors, along with the integration and choice measurements mentioned earlier, contribute to a comprehensive analysis.

Assigning frequency weight allows us to evaluate how the number of people in a given area and the spatial arrangement impact social interaction. Activity weight takes into account the range and variety of activities that can occur within a space, influencing social dynamics. Visibility weight considers the ability to see and be seen by others, affecting the perception of safety and the potential for social engagement. Lastly, the total weight combines all these factors to provide an overall assessment of each typology's ability to foster social interaction.

Integrating these measurements with the integration factors allows for a more holistic evaluation of the social dynamics within different spaces and building typologies.

Integration refers to the process of combining different elements or parts into a whole, creating a cohesive and interconnected system. In the context of urban planning and design, integration plays a crucial role in shaping the frequency and frequency of population as well as the activities within a given area.

Integration affects the frequency of population by fostering connectivity and accessibility. When different parts of a city or urban area are well integrated, it becomes easier for people to move between various locations. Integrated transportation networks, such as well-connected roads, pedestrian paths, and public transit systems, provide convenient and efficient travel options. As a result, people are more likely to reside or spend time in areas that are easily accessible, leading to increased population frequency. Moreover, integrated areas often attract a diverse mix of residents, workers, and visitors, further contributing to population frequency.

Integration also influences the activities within a given area. When different functions, such as residential, commercial, educational, and recreational, are integrated within close proximity, it creates a vibrant and dynamic environment. Integrated neighborhoods or mixed-use developments encourage a variety of activities, including shopping, dining, entertainment, and socializing. The presence of diverse amenities and services within a walkable distance promotes interaction, fosters a sense of community, and increases the overall liveliness of the area. This, in turn, attracts more people and promotes a wide range of activities.

The choice of a radius of 1000 meters for integration at the pedestrian level is a hypothetical example that can be used as a guideline in urban planning. It suggests that a radius of 1000 meters (or approximately half a mile) should be considered when designing integrated neighborhoods or urban areas that prioritize pedestrian movement. This radius is based on the assumption that most people are willing to walk a distance of around 1000 meters (or 10-15 minutes) comfortably.

Since integration influence at a certain level, in the *table 19* involves adjusting the number of people (frequency) and activities based on the integration coefficient. It assumes that integration affects a certain percentage of both frequency and activities weight.

Frequency Correction: To adjust the frequency of people, you take 70% of the original frequency and add it to the product of the integration coefficient and 20% of the original frequency. Mathematically, it can be represented as:

Corrected Frequency = (0.7 * Original Frequency Weight) + (Integration Coefficient * 0.2 * Original Frequency Weight)

Activity Correction: Similarly, to adjust the activities, you take 70% of the original activities and add it to the product of the integration coefficient and 20% of the original activities. Mathematically, it can be represented as:

Corrected Activities = (0.7 * Original Activities Weight) + (Integration Coefficient * 0.2 * Original Activities Weight)

The correction approach takes into account the integration coefficient to adjust both the frequency and activities. The integration coefficient represents the extent to which integration affects the given factors. By applying this approach, you can obtain corrected values that reflect the impact of integration on the number of people and activities, based on the specified percentages. And in the end it is

calculated the total average weight correction to come to a conclusion. Each of these correction will be presented visually with maps and discussed, compared in order to come to a result.

Assigning frequency weight allows us to evaluate how the number of people in a given area and the spatial arrangement impact social interaction.

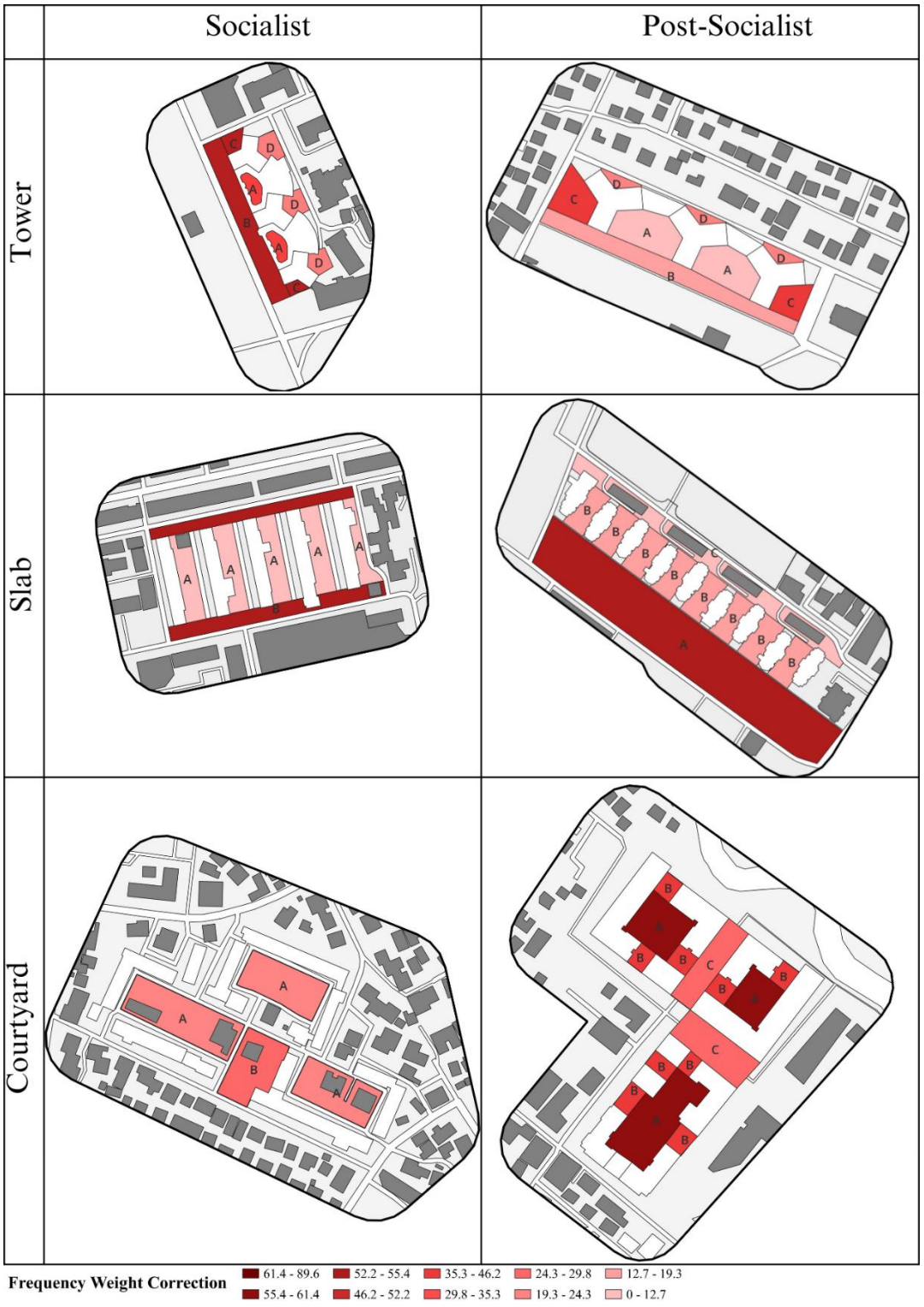
Tower Spaces: In the Tower category, space B in both Socialist and Post-socialist has the highest frequency, indicating it is the most populated site among the towers. However, space B in the Socialist Tower has a higher frequency (89.6) compared to space B in the Post-socialist Tower (30.8).

Slab Spaces: Among the Slab spaces, space B in the Socialist Slab has the highest frequency (52.3), whereas space A in the Post-socialist Slab has the highest frequency (55.3). This suggests that Space B in the Socialist Slab may be relatively more populated compared to the other Slab spaces.

Courtyard Spaces: In the Courtyard category, Space A in both Socialist and Post-socialist has the highest frequency. However, Space A in the Post-socialist Courtyard has a significantly higher frequency (58.3) compared to Space A in the Socialist Courtyard (19.5).

Looking at the overall pattern shown in table 20, it seems that the Post-socialist spaces generally have lower frequencies compared to the Socialist spaces. This suggests that the Socialist spaces may attract more people or have a higher population density.

Table 20. Frequency Weight Correction



Activity weight takes into account the range and variety of activities that can occur within a space, influencing social dynamics.

Tower Spaces: Space B in both Socialist and Post-socialist Towers has the highest activity weight. In the Socialist Tower, it is 74.3, while in the Post-socialist Tower, it is 91.1. This indicates that Space B in the Post-socialist Tower potentially offers a wider range of activities compared to its counterpart in the Socialist Tower. One of the reasons it's that is near the city center and main street. Especially the spaces A, B, C, are located the activities where most people frequently use like café bars and restaurants. While the activities in the back located at the space D are often frequented by people. However, it's worth noting that the Post-socialist Tower has almost the same situation where significantly lower activity weight for Space D (0.0), indicating that this particular space is not be utilized for any significant activities. That is also because the Post-socialist Tower is still in landscape construction and does not offer a variety of activities yet.

Slab Spaces: Among the Slab spaces, Space B in the Socialist Slab has a higher activity weight (60.2) compared to Space A (54.5). In the Post-socialist Slab, Space A has the highest activity weight (91.9), suggesting a more diverse range of activities compared to the other Slab spaces.

Courtyard Spaces: Space A in the Post-socialist Courtyard has the highest activity weight (116.8), indicating it offers the most varied and extensive range of activities. In contrast, Space B in the Socialist Courtyard has an activity weight of 0.0, suggesting a lack of activity or limited variety of activities.

Overall, the comparison of activity weights shown in table 21 reveals that the Post-socialist sites generally have higher values, indicating a potentially more diverse range of activities and social dynamics. Space B tends to have higher activity weights within each space category, suggesting that it may offer more diverse and engaging experiences compared to other sites within the same space.

Table 21. Activity Weight Correction

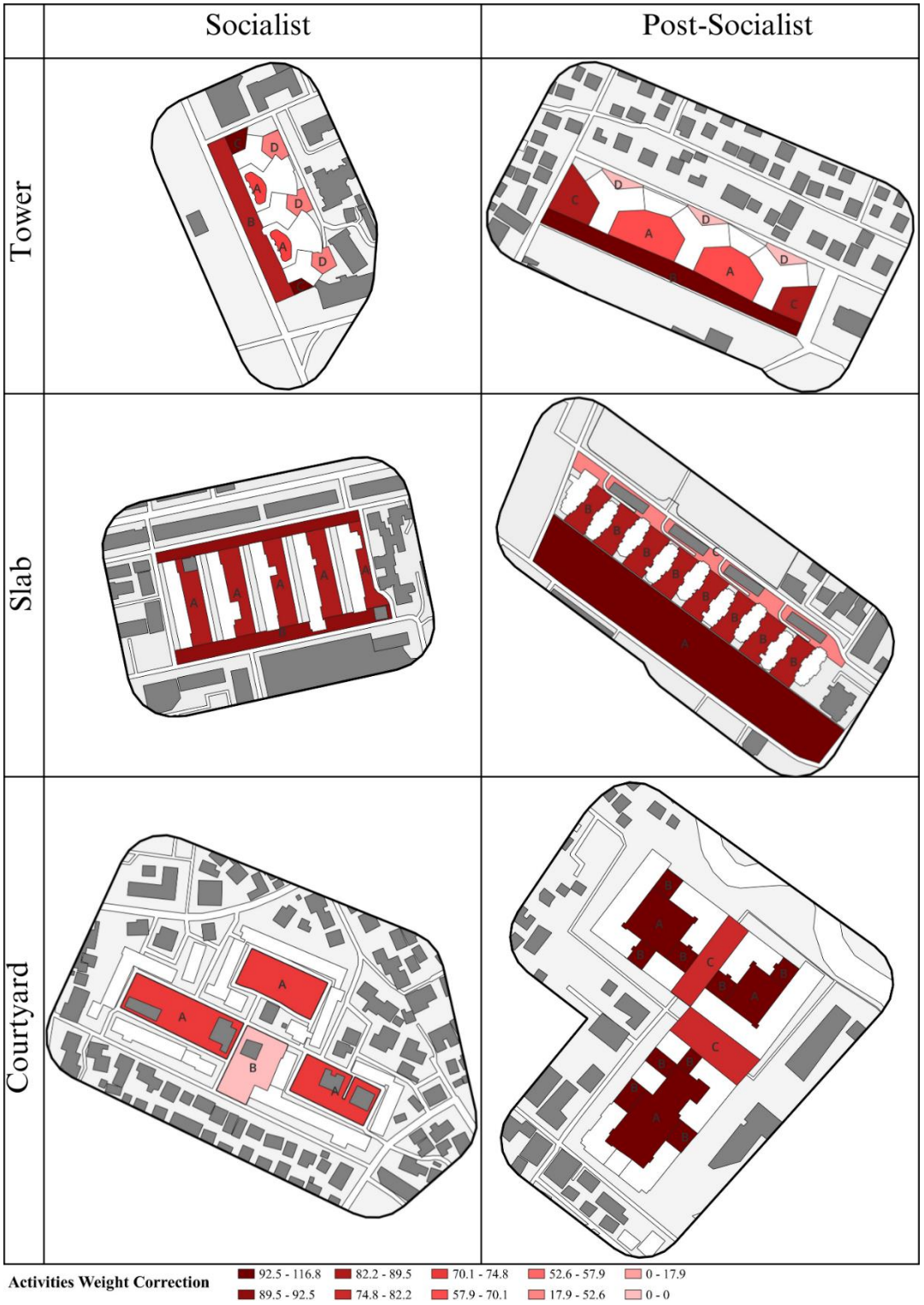
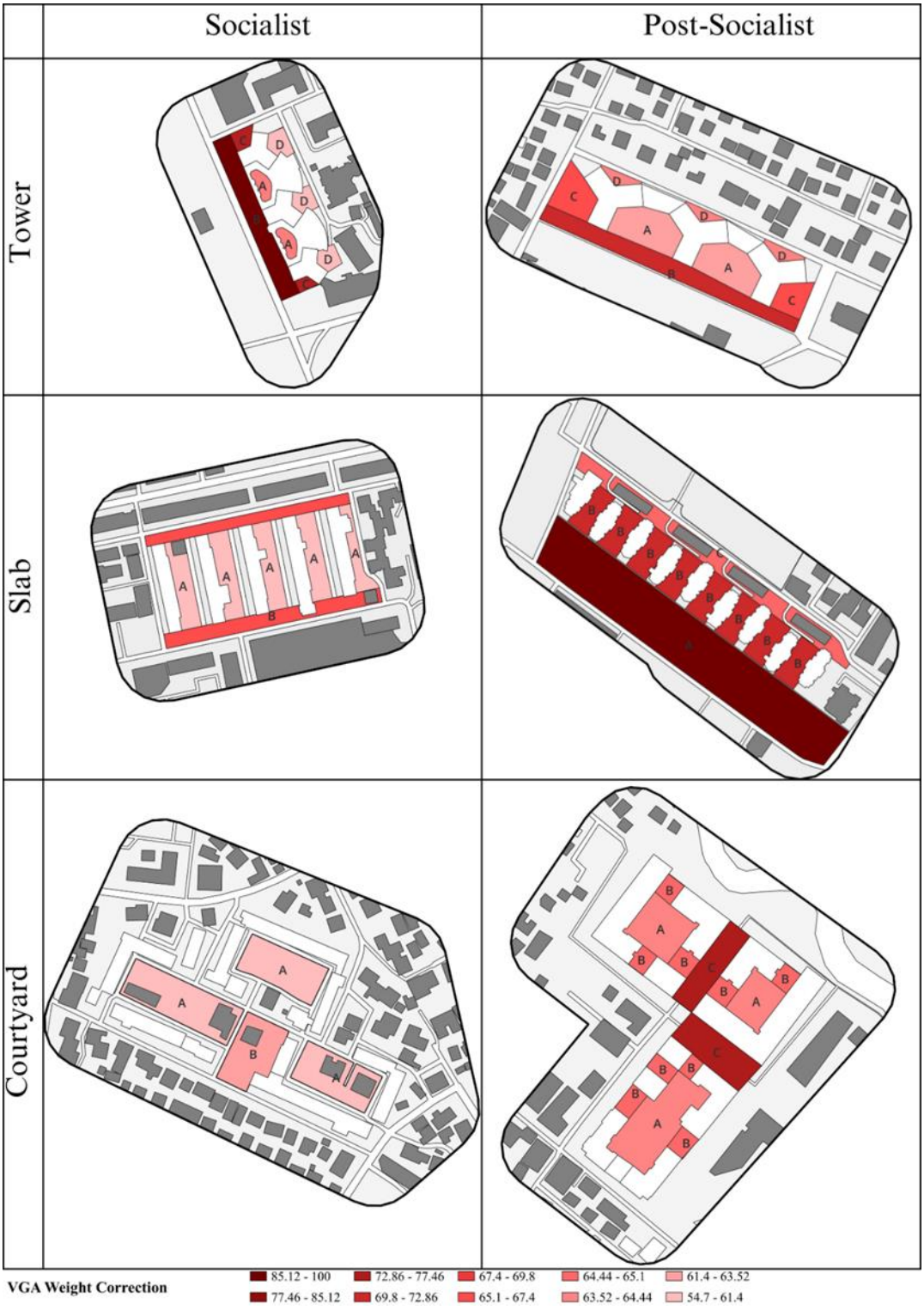


Table 22. Visibility Graph Analysis Weight



Visibility weight shown in table 22 considers the ability to see and be seen by others, affecting the perception of safety and the potential for social engagement.

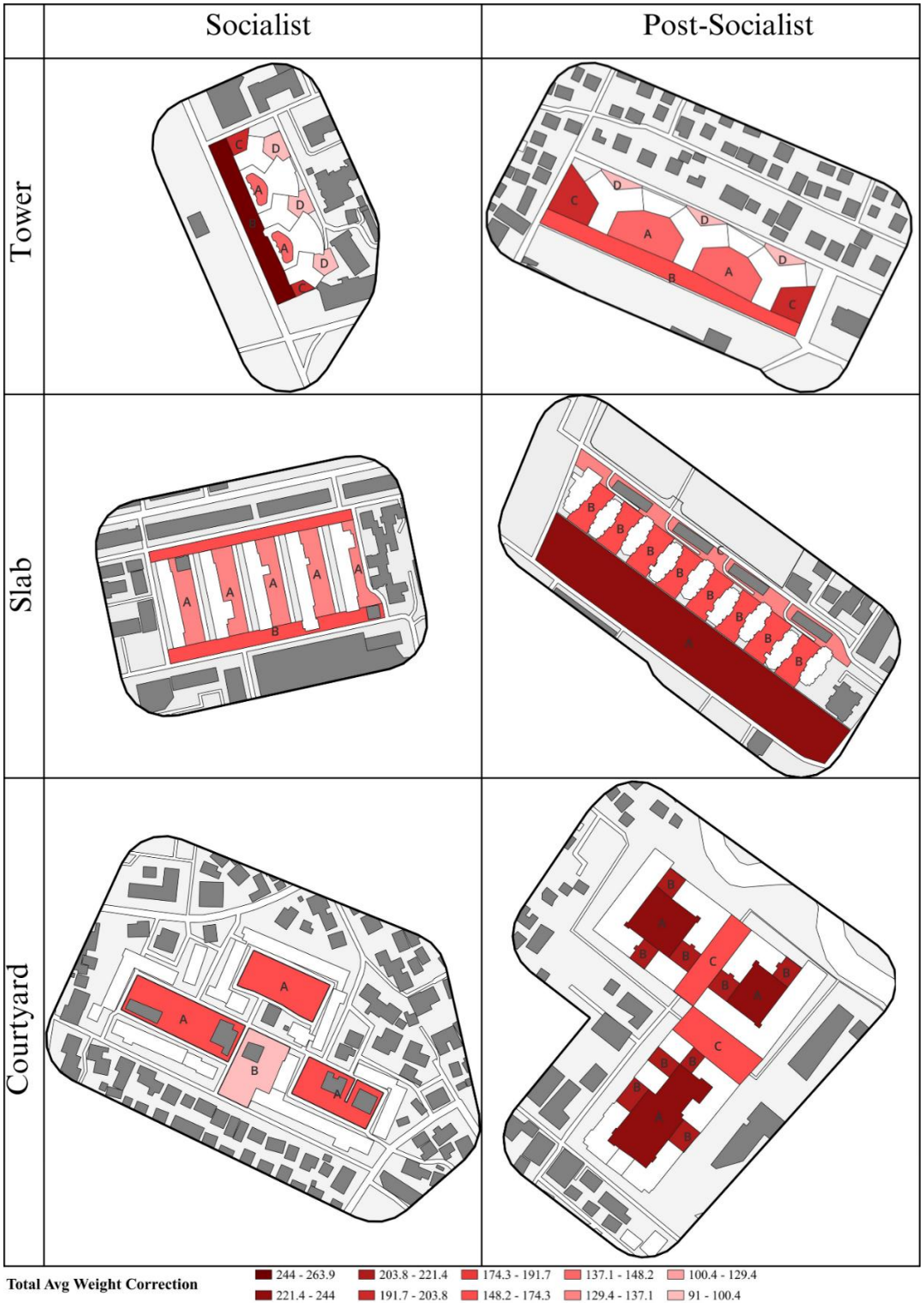
Among the spaces in the Socialist Tower, Space B stands out with the highest weight of visibility (100.0), indicating a strong potential for social engagement and visibility. On the other hand, Space D in the Socialist Tower has the lowest weight (54.7), suggesting relatively lower visibility compared to other spaces. In the Post-socialist Tower, Space A has the lowest weight (64.0), indicating comparatively lower visibility. Overall, the Socialist Tower generally exhibits higher visibility than the Post-socialist Tower, except for Space B.

Moving on to the Socialist Slab (A, B) and the Post-socialist Slab (A, B, C), there are noticeable differences in visibility. Post-socialist Slab Space A has the highest weight (86.0), indicating good visibility and potential for social interaction. In contrast, Socialist Slab Space A has a slightly lower weight (62.8), suggesting relatively lower visibility compared to Post-socialist Slab Space A. Among the Post-socialist Slab spaces, Space C which are the spaces in the back of the buildings has the lowest weight (67.4), indicating relatively lower visibility compared to other spaces. Overall, the Post-socialist Slab exhibits higher visibility than the Socialist Slab, with varying degrees of visibility among different spaces.

Lastly, the Socialist Courtyard (A, B) and the Post-socialist Courtyard (A, B, C) also show differences in visibility. Post-socialist Courtyard Space C has the highest weight (73.3), indicating good visibility and potential for social engagement. On the other hand, Socialist Courtyard Space A has the lowest weight (55.8), suggesting relatively lower visibility compared to other spaces in both courtyards. In general, the Post-socialist Courtyard demonstrates higher visibility than the Socialist Courtyard, with varying degrees of visibility among different spaces.

In conclusion, the Post-socialist building typology, particularly the Post-socialist Slab, promotes higher visibility compared to the Socialist building typology. Among the spaces, Post-socialist Slab Space A, Post-socialist Tower Space B, and Post-socialist Courtyard Space C generally exhibit the highest weights of visibility, indicating good visibility and potential for social engagement. These spaces are more conducive to activities and social interactions due to their higher visibility.

Table 23. Total Average Weight Correction



Lastly, the total weight shown in table 23 combines all these factors to provide an overall assessment of each typology's ability to foster social interaction.

Socialist Tower: The total average weight correction for the Socialist Tower ranges from 129.3 to 263.9. The highest value is found in Space B, followed closely by Space C. Space D has the lowest value. This suggests that the Socialist Tower typology provides spaces with a relatively high potential for social interaction, especially in Spaces B and C.

Post-socialist Tower: The total average weight correction for the Post-socialist Tower ranges from 100.4 to 200.9. Space C has the highest value, followed by Space B, while Space D has the lowest value. Comparing with the Socialist Tower, the Post-socialist Tower generally has lower values, indicating a potentially lower level of social interaction in these spaces.

Socialist Slab: The Socialist Slab typology only has two spaces, A and B, with total average weight corrections of 135.8 and 182.3, respectively. These values are lower than the ones observed in the tower typologies. However, comparing the two spaces, it can be inferred that Space B in the Socialist Slab typology has a higher potential for social interaction than Space A.

Post-socialist Slab: The Post-socialist Slab typology also has three spaces, with total average weight corrections of 233.3, 174.2, and 129.4 for Spaces A, B, and C, respectively. Space A has the highest value, suggesting a relatively higher potential for social interaction compared to Spaces B and C.

Socialist Courtyard: The Socialist Courtyard typology has two spaces, A and B, with total average weight corrections of 141.7 and 91.0, respectively. Space A has a higher value, indicating a potentially better environment for social interaction compared to Space B.

Post-socialist Courtyard: The Post-socialist Courtyard typology has three spaces, with total average weight corrections of 239.1, 205.7, and 174.3 for Spaces A, B, and C, respectively. Space A has the highest value, followed by Space B and Space C.

An overall comparison based on typology and space that performs better was made. The Socialist Tower typology generally performs better in fostering social interaction compared to the Post-socialist Tower typology. The Socialist Tower has higher total average weight correction values in Spaces B and C, indicating a potentially better environment for social interaction. That is because as we have mentioned the different factors that indicate in this buildings like the location near the city center, or also the different activities and presence of bus station.The Post-socialist Slab typology performs better than the Socialist Slab typology in terms of fostering social interaction. The Post-socialist Slab has a higher total average weight correction value in Space A, suggesting a higher potential for social interaction. The Post-socialist Courtyard typology performs better than the Socialist Courtyard typology. The Post-socialist Courtyard has higher total average weight correction values in Spaces A, B, and C, indicating a potentially better environment for social interaction.

Among the spaces within each typology, Space B generally performs better in fostering social interaction compared to other spaces. This is observed in the Socialist Tower, Post-socialist Tower, Socialist Slab, and Post-socialist Courtyard typologies. In the Socialist Courtyard typology, Space A performs better than Space B in fostering social interaction. In the Post-socialist Slab typology, Space A performs better than Spaces B and C in fostering social interaction.

Based on the analysis that were conducted, it can be concluded that in the post-socialist period, the Slab typology generally performs better in fostering social interaction compared to the Tower and Courtyard typologies. Among the spaces, Space A consistently shows higher weight correction values across the typologies and periods, indicating its better performance in facilitating social interaction.

On the other hand, the findings presented in the literature [31]shed light on the relationship between in-between spaces, social interaction, and the sense of community within residential neighborhoods. The presence of commercial uses on the ground floor can limit residents' opportunities to personalize their front yards and may potentially hinder social interaction. This suggests that careful consideration should be given to the design and planning of mixed-use developments to ensure that residential spaces are not compromised.

While in-between spaces have been recognized as facilitators of social interaction, it is important to note that they do not automatically guarantee neighboring and social relations. The dynamics of community and neighboring parameters are evolving, and modern developments should acknowledge the role of virtual interaction networks alongside physical interaction places. Incorporating digital platforms and virtual communities can enhance social connections and foster a sense of belonging among residents.

The influence of outdoor spaces, such as streets and tot-lots, on social cohesion was found to be stronger than that of indoor spaces. Isolated streets and controllable tot-lots, offering a level of group privacy, positively impacted social cohesion. On the other hand, attributes like global integration and excessive greenery along the street, which were initially believed to enhance social activities, showed a negative association with residential social cohesion. This suggests that the design of outdoor spaces should consider balancing opportunities for social interaction with the need for privacy and territoriality.

The research emphasizes that it is not solely the presence of in-between spaces that determines social relations. While in-between spaces can encourage social interaction and increase the frequency and chance of encounters, they are just one factor in developing social relations. Traditional and mixed-use neighborhoods may have a higher frequency of interaction, but their sense of community can be lower compared to modern residential estates. Therefore, new developments should strive to provide a mix of various types of spaces, both homogeneous and heterogeneous, to cater to the diverse needs of community members [57].

In conclusion, the integration of in-between spaces and social spaces within residential neighborhoods requires careful consideration and planning. The presence of commercial uses should be balanced with the need for personalization and social interaction among residents. Moreover, the role of virtual interaction networks should be acknowledged to complement physical spaces. Outdoor spaces, such as streets and tot-lots, have a significant impact on social cohesion, but their design should consider factors like privacy, territoriality, and the balance between interaction and solitude. By considering these factors and providing a range of spaces, new developments can foster social relations and a sense of community.

CHAPTER 6

6.1 Conclusion

In conclusion, this research paper focused on analyzing the theory and importance of spatial configuration in relation to urban morphology and social interaction in six different residential complexes in Tirana, Albania. The study compared the typologies of buildings constructed during the socialist and post-socialist periods to identify the differences in urban design approaches. The research utilized a mixed approach, combining spatial-morphological analysis, site surveys, and observations to understand the socio-spatial organization of the neighborhoods by using software like Space Syntax and QGIS.

The findings of the analysis revealed distinct patterns in visibility and activity between the socialist and post-socialist typologies. The socialist buildings, including the Socialist Tower and Socialist Slab, demonstrated higher visibility values compared to their post-socialist counterparts. This suggests that the design and layout of the socialist buildings facilitated better visibility, particularly in areas adjacent to main roads and between buildings. On the other hand, both the socialist and post-socialist courtyards exhibited areas with high visibility, indicating that larger open spaces within the buildings contributed to pleasant visual views and interactions.

Furthermore, the observation analysis of the six residential complexes provided valuable insights into the distribution of demographics and activities within each complex. The gender distribution varied across the complexes, with some showing a higher proportion of females or males. The socialist complexes generally had a higher concentration of adults, while the post-socialist complexes had a relatively larger population of children. In terms of activities, the socialist spaces tended to have higher levels of movement and standing, whereas the post-socialist spaces displayed a higher overall level of activity and a more balanced distribution between sitting and standing.

Regarding the popularity and utilization of spaces, the socialist tower consistently attracted the highest number of people, followed by the socialist

courtyard and the socialist slab. Among the post-socialist typologies, the post-socialist slab emerged as the most popular location, followed by the post-socialist courtyard and the post-socialist tower. There was a slight decrease in the number of people observed on weekends compared to weekdays across all locations, suggesting potential variations in visitation patterns.

To evaluate the efficacy of different in-between spaces and building typologies in facilitating social interaction, the research considered factors such as density weight, activity weight, visibility weight, and total weight. The socialist typologies generally exhibited higher activity weights, indicating a greater promotion of activities and social dynamics. On the other hand, the post-socialist typologies had lower activity weights, potentially due to ongoing landscape construction and a lack of variety in activities offered.

When considering the total weight, which combines all factors, the findings suggest that the socialist tower has a higher overall ability to foster social interaction compared to the post-socialist tower. The socialist slab showed potential for social interaction in space B, while the post-socialist slab performed better in space A. The post-socialist courtyard had higher potential for social interaction in space A, B, and C compared to the socialist courtyard.

In summary, this research concludes that the socialist typologies, particularly the socialist tower, promote higher activities and a more vibrant and socially dynamic environment. Meanwhile in the post-socialist period, the Slab typology generally performs better in fostering social interaction compared to the Tower and Courtyard typologies. Among the spaces, Space A consistently shows higher weight correction values across the typologies and periods, indicating its better performance in facilitating social interaction.

These findings contribute to our understanding of how urban design and spatial configuration can influence social interaction in residential complexes. The research highlights the importance of considering factors like visibility, activity, and density when designing in-between spaces.

6.2 Limitations

The study is aware of several limitations, which should be considered when interpreting the results. First, six residential complexes in various Tirana, Albania, areas are the subject of the investigation. Although these complexes were picked to reflect both communist and post-socialist architectural typologies, it's possible that not all regions of the city or other cities with distinct urban environments may properly generalize the results. The study also uses a mixed-methods strategy, integrating site surveys and observations with Space Syntax and QGis analysis. Despite the fact that this method offers a thorough grasp of the socio-spatial structure of the neighborhoods, it may nevertheless have inherent drawbacks such possible biases in the observations or the methods utilized for spatial analysis.

In addition, the research focuses largely on the physical qualities and design elements of the urban environment, sparing no effort to take into account other elements that could affect social interaction, such cultural or economic considerations. Lastly, rather than going extensively into the particular dynamics or consequences of these interactions, the research largely focuses on the potential for in-between social spaces to encourage social engagement.

6.3 Recommendations for future research

The findings suggest several recommendations for future research in the field of urban design and social interaction. Firstly, it is important to expand the scope of investigation beyond the specific residential complexes in Tirana, Albania, to examine a wider range of neighborhoods and cities for generalizability. Additionally, future research should consider the influence of cultural, socioeconomic, and technological factors on social interaction in urban spaces. Longitudinal studies and collaborations can provide valuable insights into the dynamics and evolution of in-between social spaces. These recommendations aim to enhance our understanding and inform effective design strategies for fostering social engagement in urban environment.

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