

AMERICAN UNIVERSITY OF BEIRUT

BORDER ZONES IN POST-CONFLICT CITIES:
RE-CONCEPTUALIZING BEIRUT'S FORMER GREEN LINE
FROM A SECTARIAN DIVIDE TO A RESILIENT
INTERFACE

by
DINA GHASSAN CHEHAB

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for the degree of Master of Urban Design
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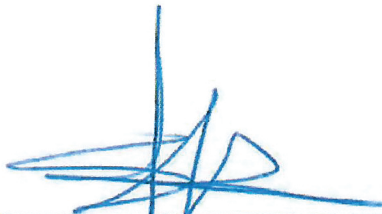
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AN ABSTRACT OF THE THESIS OF

Dina Ghassan Chehab for Master of Urban Design
Major: Urban Design

Title: Border zones in post-conflict cities: Re-conceptualizing Beirut's former Green Line from a sectarian divide to a resilient interface

Border zones in post-conflict cities are the locus of collective imaginaries inducing memories of sectarian divides, and instigating attempts at urban integration with narratives of peace and reconciliation. Post-war reconstruction plans have favored the neutralization of border zones through urban renewal projects, unresponsive to the evolving identity of their adjoining districts. This thesis intends to re-conceptualize border zones as both segregators and integrators, to be reinforced, negotiated, or 'fluidified' with reference to the realities of their district's context as well as to the overall city dynamics. The case study focuses on the Southern entrance of Beirut's Central District along Damascus Road (a segment of the former Green Line) and examines its transformation from a combat zone into a transitional and unresolved interface polarized between two district identities; to the East, a campus district typified by Saint Joseph University (USJ), and to the West a corporate development precinct epitomized by Beirut Digital District (BDD). The thesis proposes a set of context-sensitive urban design strategies for enhancing streetscape identity, improving vehicular and pedestrian connectivity, and providing a framework for private development aimed at strengthening the responsive capacity of Beirut's former Green Line as a resilient interface.

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LIST OF ABBREVIATIONS

USJ: University Saint Joseph

BDD: Beirut Digital District

AUB: American University of Beirut

BCD: Beirut Central District

CDR : Conseil du Développement et de la Reconstruction

IAURIF : Institut d'Aménagement et d'Urbanisme de la Région Ile-de-France

ASPAD: Association pour la protection des sites et Anciennes demeure

TDR: Transfer of Development Rights

“What does Beirut see when it ‘finally looks itself in the mirror’? [...] a work of art, an abstract expressionist painting in motion.”

(Naeff, 2014)

CHAPTER 1

INTRODUCTION

A. Introduction

This study builds on the urban planning and design workshop entitled “Planning for Resilience: Decoding and Recoding Beirut’s Spatial Patterns of Fragmentation” at the American University of Beirut, in fall 2019, and my architectural final year project at the Lebanese American University. Initially, this research stems from a personal interest in Beirut’s Green Line, a representation of a fluidified division. It is also upon an interest in concepts such as place, identity, and collective memory. Those notions are developed through dynamic processes, which include notions of practices, representation, and memories, which are interconnected through time parameters (Kalandides, 2011 & Hafeda, 2019).

In the context of this thesis, the term division suggests the separation of two entities along social and economic divided, and ‘fragmentation’ denotes cities that have been driven by neoliberal trends, which led to the polarization, and restructuring of their urban form. The result is the formation of ‘edges’, which are linear spaces that separate an area into two parts (Kabbani, 1989). Those edges are the locus of collective imaginaries and catalysts of urban change, instigating memories and narratives of the city’s dynamics, thus becoming part of what Lukez (2007) refers to as ‘palimpsest’¹. Therefore, approaching borders in space and time, in terms of their adaptive capacity to

¹ A palimpsest is a text that has been written upon and erased over time (Lukez, 2007), producing traces of the past, which holds the collective memory, an amalgamation of cognition, perceptions, and meaning.

change, has become part of a new paradigm referred to as ‘planning for resilience’ or the strengthening capacity for adaptation (Saliba & Farhat, 2019). This approach raises dialects of integration and segregation, promoting boundaries as dynamic elements for the re-creation of a place’s identity.

The workshop adopted a resilient position to reach planning and design solutions that aim to reintegrate edges into their economic, social, and spatial context. Accordingly, this thesis revises and adds design-centered interventions by integrating theories and lessons learned from the literature review and relevant local and global case studies.

This research examines the two concepts of ‘fragmentation’ and ‘resilient planning and design’ within the specific socio-cultural contexts of contested cities of the Global South, taking postwar Beirut as a case study.

B. Context Definition

1. The case-study of a divided/fragmented Beirut

The history of the Lebanese civil war recalls memories of Beirut as a broken mirror, shattered by its socio-economic developments (Naeff, 2014). The war has spatially reconfigured Beirut along edges that further reinforced the dichotomous ideologies. Thus, the ‘Green Line’ grew to become a symbol of division. After the war, mirroring the urbanization trends in developed cities, Beirut witnessed an increasing polarization and neoliberal restructuring of its urban form in an attempt to reconstruct a new identity for the city. This shifted Beirut from being a divided to a fragmented city.

In the reconstruction plans of Beirut, several projects tackled the case of the Green Line, while some sought to be socially responsive and commemorate this division, others attempted to erase its traces.

2. The case-study of Beirut's Green Line

The following will identify the different sections of the Green Line and their current dynamics (*Figure 1*).

- The first section is part of Beirut's city center that stretches from Martyrs' Square to the Ring Road. This part of this divide was erased with the post-war reconstruction plans undertaken by Solidere².
- The second section is part of the peri-center zone of Beirut, which stretches from the Fouad Chehab Avenue to the Tayouneh Roundabout. This part is neutralized as a through-traffic corridor, which corresponds to Damascus road, a spine for religious, educational, cultural, and entertainment amenities, as well as a hub for some administrative offices. Moreover, due to its proximity to the Downtown area the section is undergoing real estate and infrastructural developments.
- The third section is part of Beirut suburbs, which includes the Old Saida road. This section extends from the Tayouneh Roundabout to Chiyah Municipality, bordered by Chiyah on the West and Ain El-Roummaneh on the East. This section is sharply divided, spatially, and socially, by the newly constructed through-traffic corridor.

² Following the devastating Lebanese Civil war, Solidere, a Lebanese joint-stock company (public-private partnership), took charge of planning and redeveloping Beirut Central District. It possesses special powers, such as expropriation and authority in codifying laws.

- The fourth section is part of Beirut suburbs, which stretches from the Mar Mikhael church to the Choueifat area. It is currently undergoing changes at the infrastructural level.

The preceding proves that the concept of East and West Beirut is still present in the minds of the people, which is manifested through everyday spatial practices.

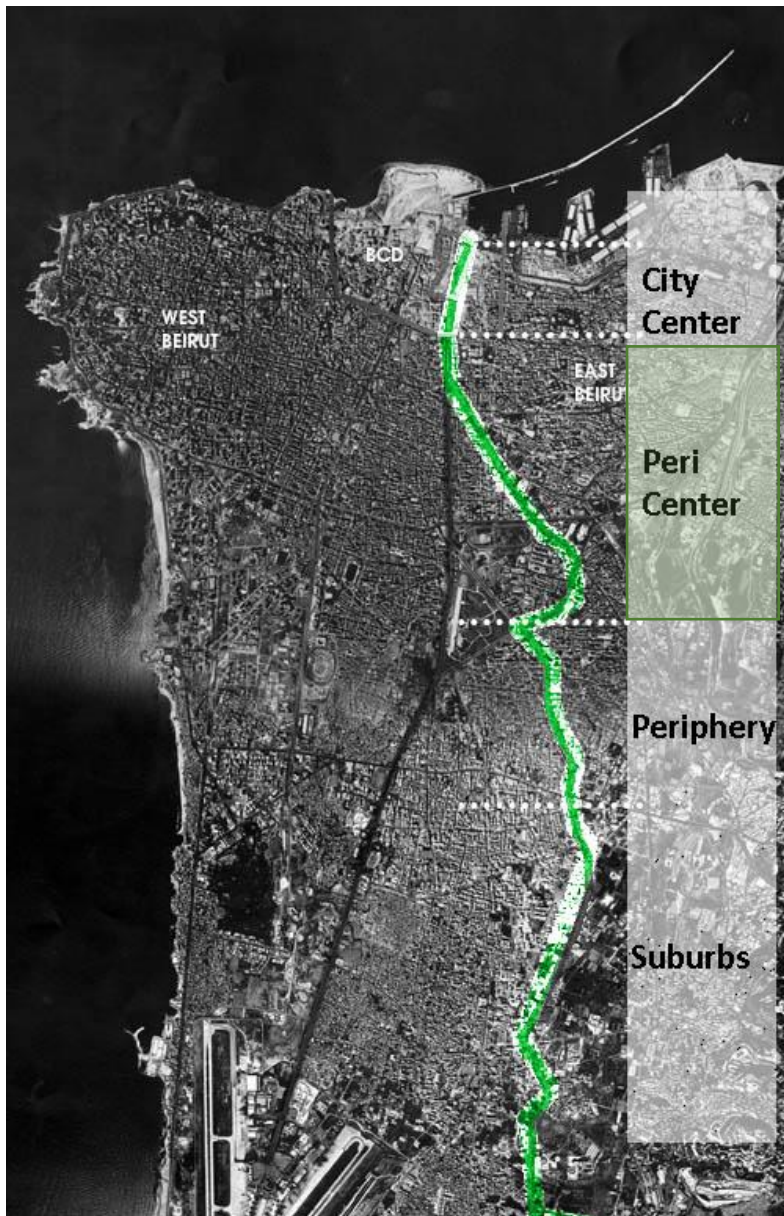


Figure 1. Aerial photo of metropolitan Beirut showing the Green Line, and its different sections (Source: Author, 2020)

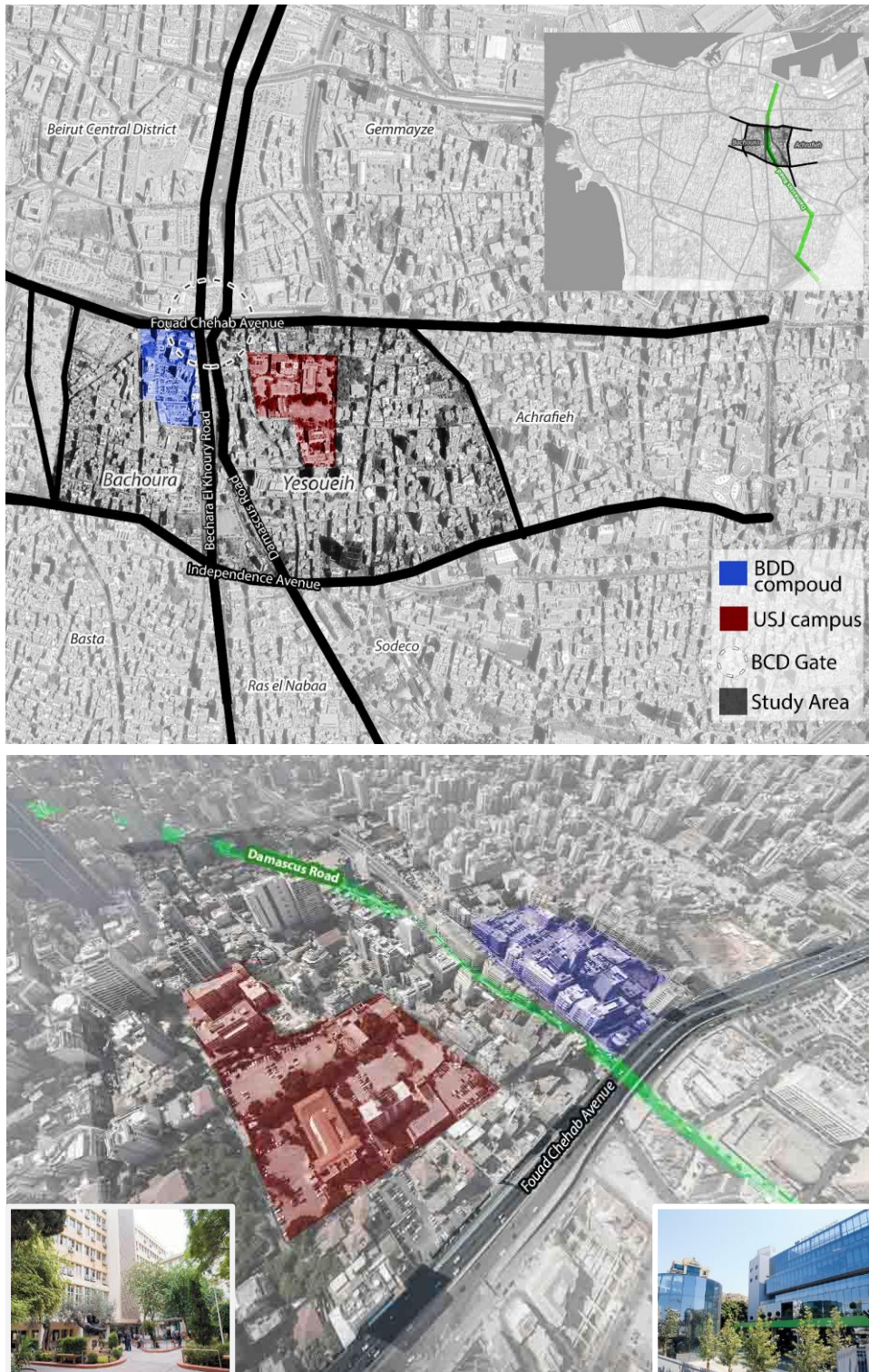
3. The case of BCD Southern gateway

The field surveying and data collection are focused on the above-highlighted area, which is only preliminary and will be redefined in chapter IV (*Figure 2*).

The selected section is the second part of the Green Line, more precisely the Northern section of it, which demonstrates several patterns of fragmentations, including social, economic, and spatial divides. It is one the entrances to BCD, an area that includes the two neighborhoods of Yesoueih and Bachoura, which are both structured by the East-West axes of Fouad Chehab and Independence avenues, and the North-South axes of Damascus and Bechara El Khoury roads.

To the East, is the Yesouieh sector a mixed-use educational and residential district, with the prominent campus of USJ, and a mix of colonial period and 1960s buildings initially impacted by the war and currently subject to renovations for restaurants, night clubs, fast food and coffee outlets. The area includes Monot Street, which is the main commercial and entertainment spine of the Yesouieh sector. Nevertheless, due to gentrification, many retail shops closed. The area is characterized by a middle to upper-income Christian population.

To the West, is the Bachoura sector, a predominantly residential middle-income Sunni district. It is currently undergoing gentrification with the demolition and replacement of its period buildings by medium to high rise residential infills, and the development of large-scale projects like the BDD, an innovative high-tech hub. The process is called “creative gentrification”, and what Florida links to as ‘the creative class’, a knowledge-based population that would be the base for a flux of human capital within the economic system (Florida,2005). However, this process further gentrified the area, which led to negative impacts such as forced displacement.



Yesoueih: USJ

Bachoura: BDD

Figure 2. Aerial view of Beirut and site selection (Source: Author, 2020)

C. Problematic

This thesis focuses on the Southern entrance of Beirut's Central District along Damascus Road (the former Green Line) and examines the transformation of its identity, since the end of the civil war in 1990, from a battlefield zone into a transport corridor. Currently, this border zone is undergoing restructuring along neoliberal principles of development, leaving it as an unresolved and transitional interface detached and un-influenced from its local context. The interface is polarized between two district typologies, to the East (Yesoueih) is an institutional campus typified by Saint Joseph University, and to the West (Bachoura) is a corporate development epitomized by the Beirut Digital District (BDD). Therefore, the area is a significant space for urban research and an opportunity to study border zones in contested/fragmented cities.

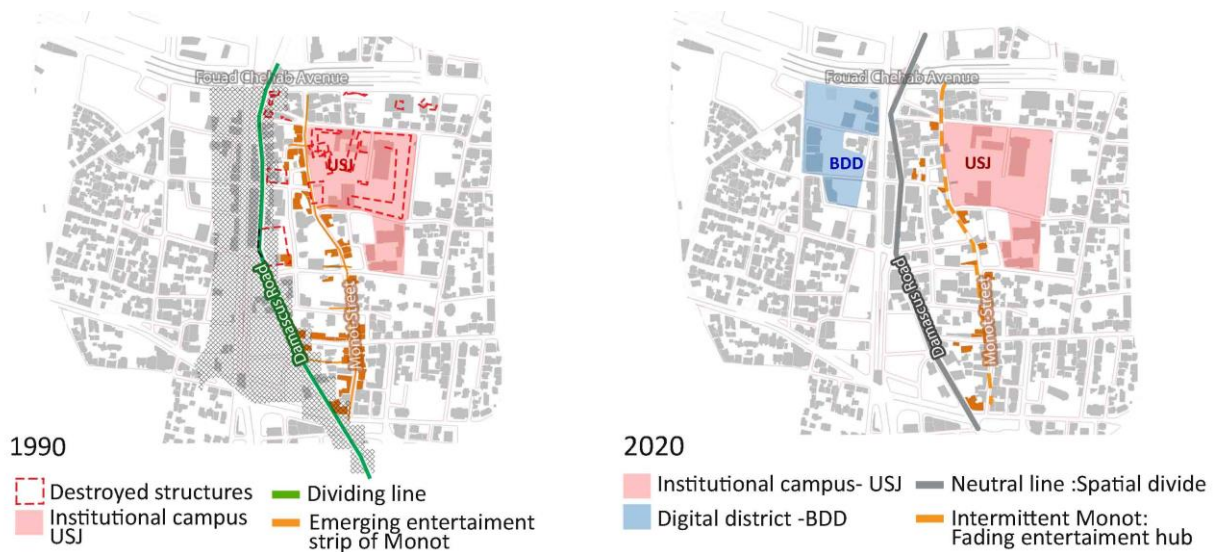


Figure 3. Study area problematic context from 1990 till 2020 (Source: Author, 2020)

D. Research question/ Premise

This thesis proceeds from the notion that dividing lines should be accommodated rather than rejected. This study intends to answer the following: how to re-conceptualize induced boundaries as both segregators and integrators to be either reinforced, negotiated or ‘fluidified’ with reference to the realities of their immediate context dynamics?

Taking the interface zone between Yesouieh and Bachoura zones, how is it that we can address the dual potential of border zones as segregators and integrators, with reference to the economic dynamics of their adjoining districts? More specifically, **how can urban design interventions re-conceptualize the Green Line’s identity into a resilient interface, in response to the existing dual dynamics of a university campus and a corporate development?**

My position follows the market growth and ensures that future developments are regulated to ensure a viable environment, by devising plans for both the public and private domains. The research aims at strengthening the responsive capacity of the ex-demarcation zone to solve the transitional identity of the border zone.

The thesis starts from the premise that various cultural, educational, and open spaces across the Green Line provide an opportunity for its integration within the city fabric. It has on its Eastern side, Monot Street, which is the main commercial and entertainment spine of the Yesouieh sector, the campus of USJ, and rich heritage fabric. While on the Western side, it has the potential of the booming digital district of USJ.

The goal is to reinforce and integrate the complementarily of two precincts, USJ and BDD along the Green Line, where both will act as driving forces for urban development.

The scheme is a multi-scalar one: (a) on a general level, it conceives a general masterplan with various aspects of development; (b) On a micro level, it focuses on two action areas within the neighborhoods, and proposes a set of context sensitive urban design strategies for enhancing streetscape identity, improving vehicular and pedestrian connectivity, and providing a framework for private development.

E. Research significance

This thesis addresses Beirut's Green Line differently from previously proposed plans. While many have seen the urge to turn this break into an integrative or segregative spine, by consolidating, erasing it, or appropriating it, few were those who envisioned it as a potential resilient spine in response to its contextual dynamics. Those dynamics include major economic poles, some new, as catalysts³ for urban redevelopment, with the potential of altering the Green Line and allowing it to become a dynamic element in the city that would shape the city's image.

While Bollens (2012) holds the belief that urban planning has a constructive role in reuniting divided cities, he states that there is a gap when it comes to the role of urban design in divided cities. Additionally, this research takes it a step further by exploring how urban design can also solve issues in fragmented cities. As such, this study will investigate the potential of urban design in integrating borders in post-conflict cityscapes, in response to emerging and existing dynamics.

³ Catalyst is an urban element that is shaped by the city and then, in turn, shapes its context. It has an incremental regeneration effect on the urban fabric, as it guides subsequent development (Attoe & Logan, D, 1989).

F. Thesis structure and methodology

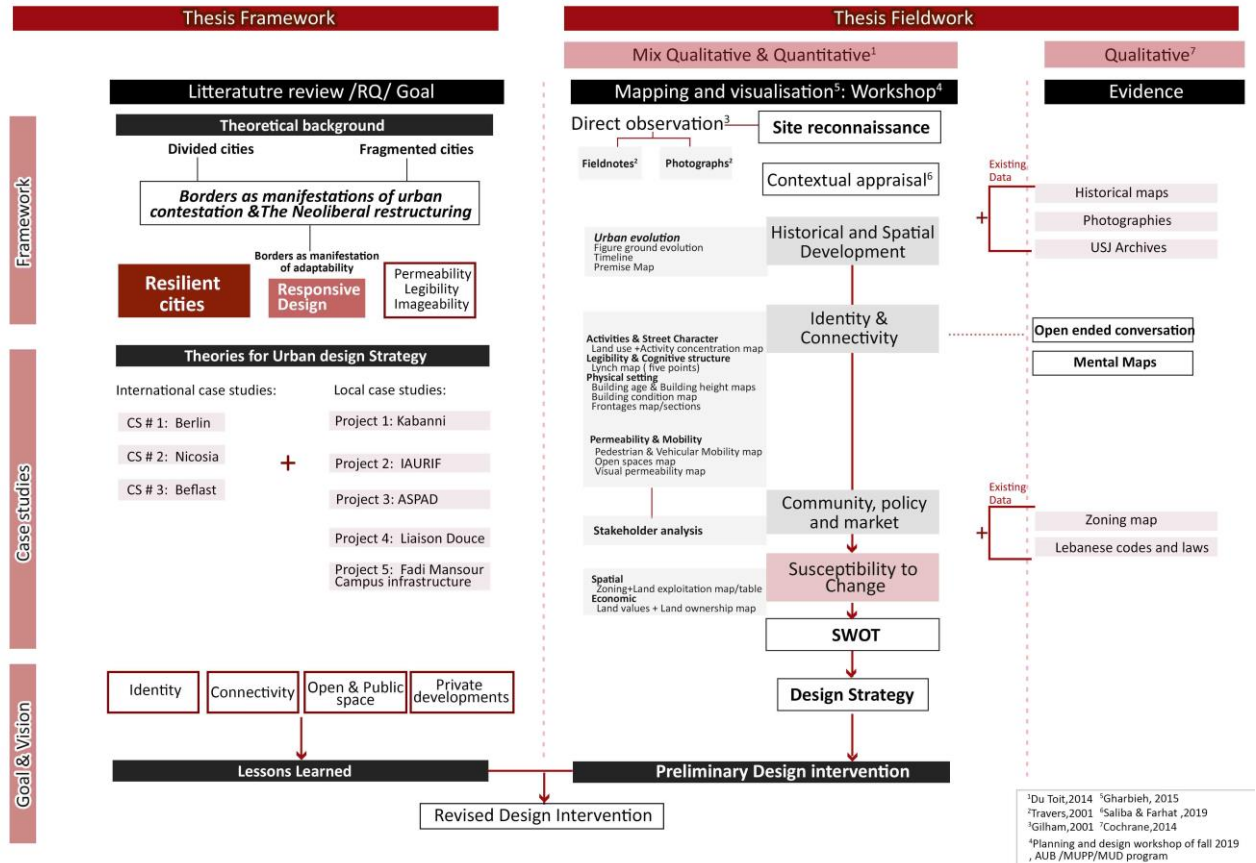


Figure 4. Methodology (Source: Author,2019)

The first chapter introduced a quick summary of the study area's background, profile, and presented the research question, its significance, and its contribution to the literature. It ends by enumerating the content and methodology of each chapter.

The second chapter expands on theoretical and methodological frameworks extracted from the literature review and international/ local case studies. It explores borders as a manifestation of urban contestation and neo-liberalization in cities, including Belin, Belfast, and Nicosia. The extracted strategies are fundamental design

principles and recommendations that will improve on the initial design plan achieved in the Planning and Design Workshop of Fall 2019 at the American University of Beirut.

The first part of the third chapter narrates the historical background of Beirut, from a divided to a fragmented city, where it explains the evolution of Beirut's structure influenced by the Green Line and its restructuring due to neoliberal principles of development. The second half of the chapter describes the urban design projects that dealt with the Green Line from 1989 till now. Those conducted studies are key to extract urban tools and elements that will contribute to enhancing the initial planning and design intervention of the Planning and Design Workshop.

The fourth chapter provides a detailed account of the study conducted on the Southern entrance of Beirut's Central District in the context of the urban design and planning workshop. The evidence includes data collection from fieldwork, mapped observations, and illustrated analysis that allowed for a better evaluation and assessment of the existing practices along the Green Line. The observation/mapping protocol is divided into three parts: i) historical and spatial development examines the area historical and spatial development with an emphasis on the postwar period extending from 1990 until now, ii) Identity and connectivity appraisal includes the site's activities, street character and built environment, and iii) community, policy, and market appraisal entails a stakeholder analysis that identifies the views and aspirations of local inhabitants, businesses and authorities as well as the interests of investors and developers. The findings led to a critical understanding of the development dynamics and susceptibility to change, which led to an initial urban design and planning scheme, which will be part of the Appendix section.

The fifth chapter gives a detailed account of the revised design scheme following the studio workshop, which will be divided into two: the general masterplan and the design of two action areas, along with the legal framework and implementation tools. The plans consist of enhancing the public domain that includes upgrading the quality of streets and open spaces, improving vehicular and pedestrian accessibility, and provide a framework for private development.

CHAPTER II

LITERATURE REVIEW

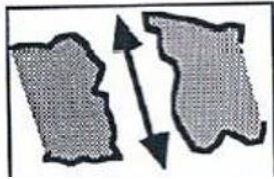
A. Theoretical background

The literature review explores the notion of ‘borders’ in ‘divided cities’ and ‘fragmented’ cities. While the former is related to urban contestation as a factor of segregation, the latter is linked to neo-liberalization and gentrification as a catalyst of urban restructuring. The third concept to be covered is the resilient approach as a shifting paradigm in urban planning and design, which approaches borders in space and time, in terms of their adaptive capacity to conditions of change, uncertainty, and temporality. The literature review will conclude with the investigation of relevant case studies, both international and local, to extract strategies that could be applied to the study at hand.

1. Divided cities: Borders as manifestations of urban contestation

Cities that present social, political, and economic rifts are called divided or polarized cities (Kempem, 2007); they are split along a linear division, usually referred to as “demarcation line” or “border” (Kabbani, 1989) (*Figure 5*).

Two Pieces, Two Edges, and one line:



Microcosm A vs. Microcosm B:



A Piece, its Fragments and Boundaries:



The Boundary and its Microcosms:



Figure 5. Boundaries definition (Source: Kabbani,1989)

Borders are fixed and unfixed, made and unmade, permeable, and impermeable; as such, their identities are constantly changing (Saliba, 2019). Borders can be qualified by type (spatial, socio-economic, sectarian, or/and institutional), level of permeability, and dynamics (segregated or integrated). In contested cities, borders are characterized by political, spatial, and social psychological manifestations (Bollens, 2012). As such, these divisions translate into walls, fences, no man's lands, or imaginary division lines (De Vita,2016). While some borderlines consolidate through time, others are constantly in flux, being negotiated through everyday trespassing and spatial practices (Hafeda, 2019).

While borders are visible on maps and in landscapes, they are also in people's minds. They act as a supportive framework for the collective memory, an amalgamation of cognition, perceptions, and meaning (Bakshi, 2014). The alteration, expansion, or

removal of a border affects the collective memory of a group, community, or nation, which reflects on the city's (shifting) identity⁴ (Bakshi,2014).

During the last decades, formerly divided cities such as Berlin and Beirut have shifted both their identities and restructured and became fragmented cities, redefining the configuration and meaning of borders as shaped by globalization, market forces, and gentrification.

2. Fragmented cities: Borders as manifestations of neo-liberalization

Driven by the power of class and forces of a competitive neo-liberal governance philosophy, urbanization trends lead to polarization and the neoliberal restructuring of the city's urban form (Healy, 2006). This restructuring results in urban fragmentation, which alters the urban identity of a place.

According to Harrison, urban fragmentation is a slippery concept, a recognized yet undefinable concept with no precision (Harrison,2013). Balbo defines fragmentation as the difference in services and infrastructure levels and their accessibility. He further defines fragmented cities as a single organism made up of parts that do not make up a homogeneous whole. This clash is defined by a collage of different settlement patterns, such as the “modern center”, the “historic core”, the “planned districts “and the “illegal/slum settlements”.

Each fragment exhibits an imitative pattern of modernity, yet a different feature within its urban landscape (Balbo, 1993). Kempem examines a fragment as a neighborhood, a homogeneous defined area, which has a uniform demographic and

⁴ Lynch (1960) notes how the study of a place unravels essential concepts related to identity. The continuous change of the space changes a site's identity; therefore, a site's identity should always be studied according to time. According to Lukez (2007), Identity = Site + Time. Time is needed in order to generate an identity or even a hybrid of identities

housing characteristics, meaning the same identity (Kempem, 2007). Moreover, according to Landman, fragmentation is identified in terms of thematic readings such as spatial, economic, social, and institutional divides. However, it is sometimes hard to discern which concepts produce or are the product of urban fragmentation. Therefore, the issue of urban fragmentation cannot be seen in a linear isolated way (Landman, 2011). Additionally, fragmentation can be translated through dynamics, such as regeneration, modernization, gentrification, and territorializing. The result is patterns of fragmentation reflected in the urban fabric through gated complexes, introverted malls, gentrified neighborhoods, and low-income enclaves. Those patterns are all driven by market forces and private authorities (Saliba & Farhat, 2019).

In the process, market dependency has taken over decision-making powers in urban development (Ayda & Tuna, 2013). As such, the public sector has been decentralized or privatized, where services compete for economic expansion (Harvey, 2005). In this new system, consumerism and project-led development have taken the lead, turning developers and landowners into significant urban development players. This clear uncoordinated, and chaotic actions of fragmented projects and policies have led to an unequal redistribution of benefits and welfare. Hence, fragmented cities may be considered as incubators of conflicts.

The neutralization of border zones through neo-liberal developments have favored the creation of an amnesiac state free of past torments (Nagle,2017). This process, in return, fragmented the urban fabric and weakened the urban identity. Hence, the healing along border zones became the means of fostering social cohesion and economic growth to rebuild a national and pluralistic identity.

3. Resilient cities: Borders as manifestations of responsive integration

Resilient thinking in planning and design emerged in recent decades as an attempt to cope with and recover from natural or human-made adversity (Ayda & Tuna,2013). This new paradigm is referred to as “planning for resiliency”, which is defined as the capacity to adapt, in space and time, to conditions of change, uncertainty, temporality, by integrating or segregating, reinforcing or, negotiating with the immediate context dynamics (Saliba & Farhat, 2019). Thus, resilient planning aims at improving the following attributes of a site: Permeability, legibility, and imageability (Zakariya & Ujang, 2014). These concepts fall under more significant concepts: connectivity, adaptability, flexibility, and transformability (Ayda & Tuna, 2013).

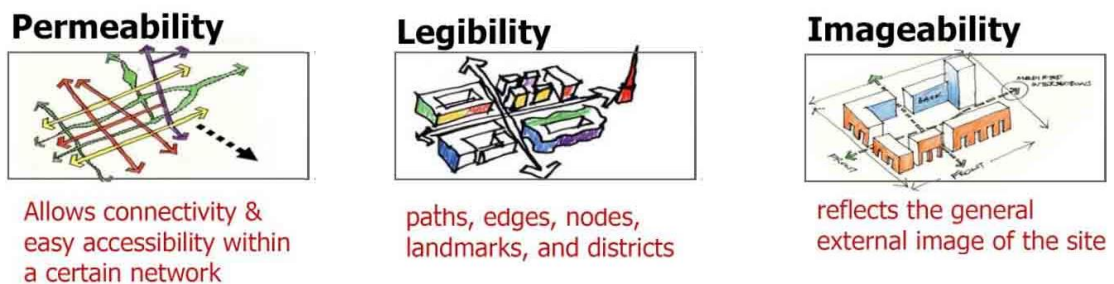


Figure 6. The three main attributes of a townscape study
(Source: McGlynn, Smith, Alcock, & Murrain,2013 & Author & ,2020)

- **Connectivity** is ensured by policies and projects which enable an area to be internally and externally linked through effective nodes or networks.
- **Adaptability** is guaranteed by policies or projects that allow a site to become adaptive to any change in a reactive way.
- **Flexibility** is ensured by policies, programs, and projects that allow an area to react to changes in a proactive way.

- **Transformability** is certified by policies, programs, and projects that contribute to the change of an area and its capability to create new systems if the previous happens to be unviable.

As such, communities shall narrate their own stories in order to identify system properties that are meaningful and exciting to enhance their personal and collective activities (Goldstein & Wessells & Lejano & Butler, 2015).

Although there is a widely held view that borders are conducive to socio-spatial segregation and political polarization, they may also be considered as catalysts of communal identities, and generators of local resilience strategies responding to the community needs.

B. Case Studies

As discussed previously, borderlines in fragmented cities are dynamic elements that continuously change at the cityscape and mindscape level. Therefore, those lines have become part of the city palimpsest, a line that holds a history of prolonged urban processes, which have rooted in people's collective memory (Gaffikin, McEldowney & Sterrett, 2010). This section will extract lessons from international urban design projects in contested cities such as Nicosia, Belfast, and Berlin.

1. Nicosia: Linear economic integration

Nicosia is divided at its center by a buffer zone, which turned into a “dead zone” location, which left each side to develop differently. To resolve the issue of segregation and disputes, the city underwent the following strategies. First, in 1979, the United Nations Development Program (UNDP) introduced a revitalization plan that brought local planners and engineers from each side, which resulted in a unified infrastructural development plan that connected both sides. Second, they initiated a program that re-uses old buildings while offering economic incentives to private owners (Gaffikin ,2010). Finally, a scheme of pedestrian cross-buffer zone routes accommodating commercial activities has been implemented, such as “Ledra Street” (red stretch on the map) that became an essential asset in the economic and social development of the city (Figure 7).

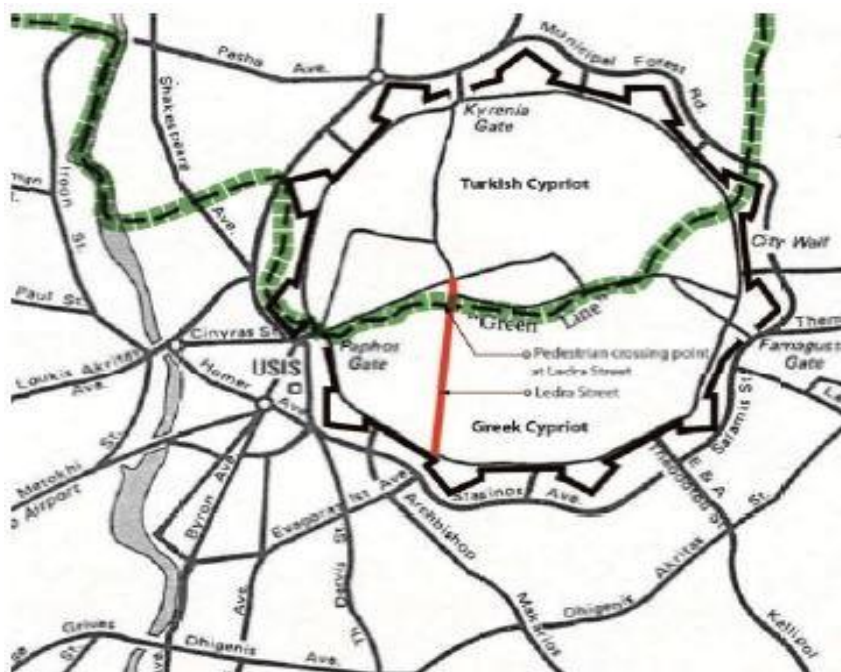


Figure 7. Nicosia pedestrian cross buffer zone plan
(Source:<http://maps.nationmaster.com/country/cy>)

2. *Belfast: Connecting green network*

Belfast, unlike Nicosia, is/was divided by physical barriers like small scale fences, called Peacewalls. Those barriers started appearing in the early '70s and were built to last until now (Gaffikin,2010). Those walls have shaped neighborhoods as “defensive spaces”, creating spaces against crime and ethnicity conflicts. The first strategy to resolve this separation was titled the “inward looking” project. It consisted of squares and commercial spaces, alongside a city-wide network of civic spaces and pocket parks, which were linked by a network of pedestrian streets. The latter is inspired by the concept of “connectedness”, which extends beyond the center and reaches nodes along arterial routes. This, in return, created a city-wide green network by using disused railways and road lines to connect parks and other recreation areas (Gaffikin,2010)

(Figure 8 & 9)



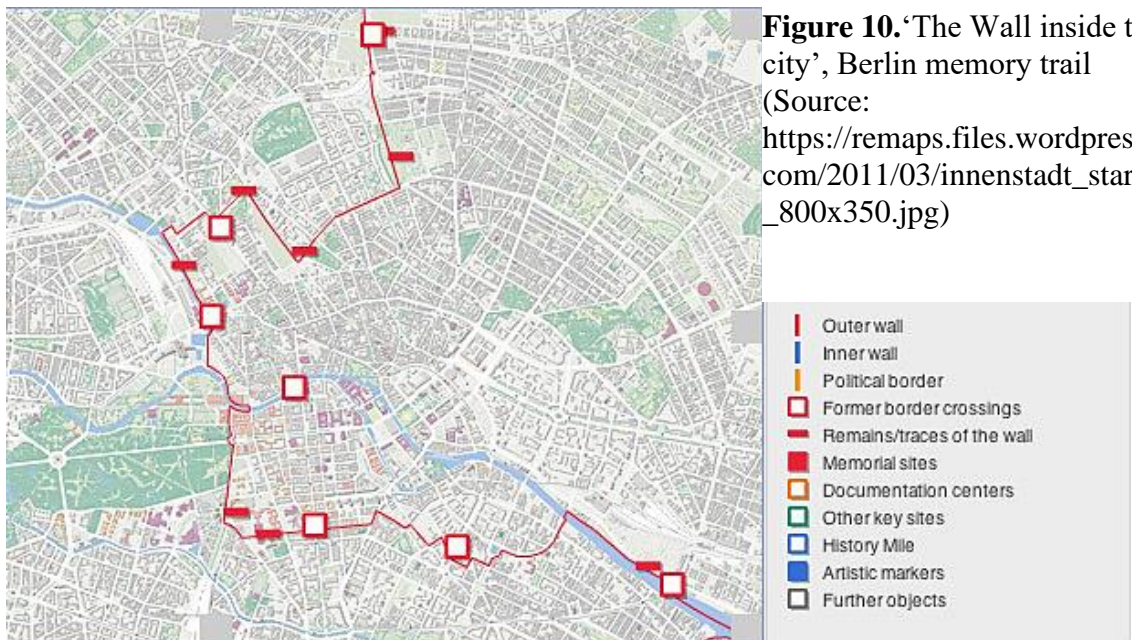
Figure 8. Peacewalls separating two neighborhoods in Belfast [photograph] (Source:<http://blogs.haverford.edu/cpgc-belfast/>)



Figure 9. Victoria square, a commercial center, in Belfast (Source:<https://visitbelfast.com/partners/victoria-square/>)

3. Berlin: Memory trail

Berlin, similarly, to Nicosia, had a linear divide, which consists of two walls with an empty land in between (Nasr, 1996). Due to the deteriorated infrastructure near the wall, prices dropped, which allowed public authorities to buy lands and develop them (Grichting, 2010). The first strategy for reconciliation was the preservation of the wall remains, which became a significant landmark. Secondly, major commemoration stations along the wall of Berlin were implemented that included border crossings, memorial sites, open-air museums, and documentation centers. The trail is connected to the public transportation stations to provides a pleasant experience for the bikers and pedestrians. Finally, the Berlin wall memorial project was a significant project that included a museum for the divided city, a visitor center, a viewing platform, and a ghost station (*Figure 10*). It is crucial to add that the local inhabitants and organizations initiated those projects.



C. Conclusion: Lessons learned

The three case studies presented the potential for dividing lines to become part of the reconciliation narrative and healer of the post-war trauma. Nicosia and Berlin, aimed at the erasure of the divide, with integration through transversal cross-buffer zones, pockets parks, and shared spaces. Belfast case accommodates the past division through commemoration trail and interactive spaces (Gaffikin,2010). The question remains: Are these strategies devised for divided cities, equally suitable in the context of fragmented cities? The study will thus study the level of applicability in the case of Beirut, along its former dividing Green Line

CHAPTER III

BEIRUT'S GREEN LINE HISTORICAL AND SPATIAL BACKGROUND- CASE STUDIES TO DATE

A. Study area in context- Beirut's Green Line

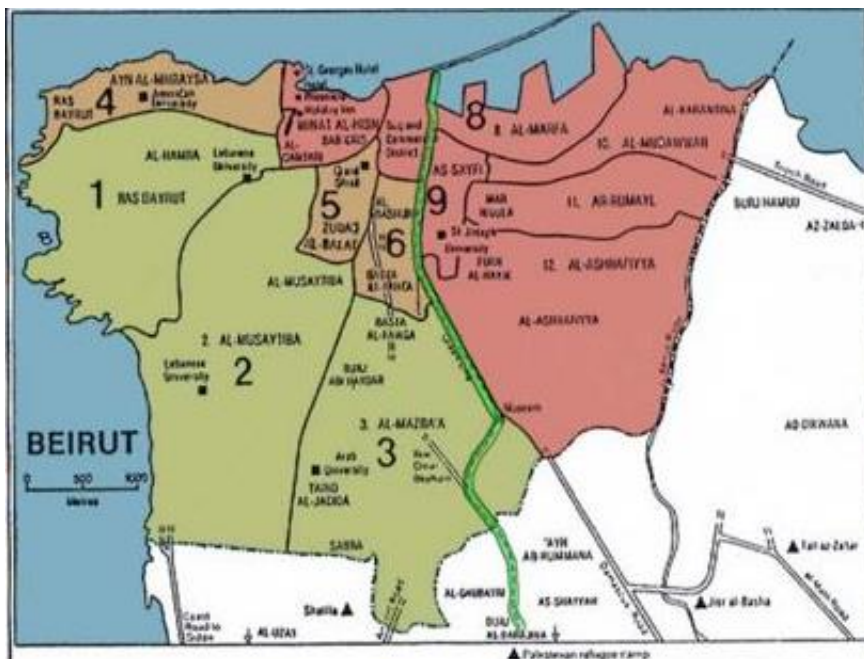


Figure 11. Kabanni 'urban mosaic' (Source: Kabanni, 1989)

The Lebanese civil war proved more or less the failure of a pluralistic society (Barakat, 1973), which Kabanni refers to as a "mosaic pattern" (Kabanni, 1989). During the war, the city was divided into two, and the only intersection between both sides became a symbol of social polarization, referred to as the Green Line⁵ or "خط التماس", described as a no-man's land. The line clearly divided the city between the Muslims on the West and Christians on the East (Nagel, 2002) (Figure 11). This line corresponds to Beirut's main north-south traffic corridor, which corresponds to Damascus and old

⁵ The Green Line corresponded roughly to Beirut's main north-south traffic corridor, starting from the historic harbor and ending in the southern suburbs.

Saida roads, starting from the historic harbor/ Martyrs Square to the southern suburbs. This divide restructured Beirut's economic activities, shifting it from a monocentric model to a polycentric one, which suggests the decentralization of businesses from Downtown to other neighborhoods⁶ (Figure 12).

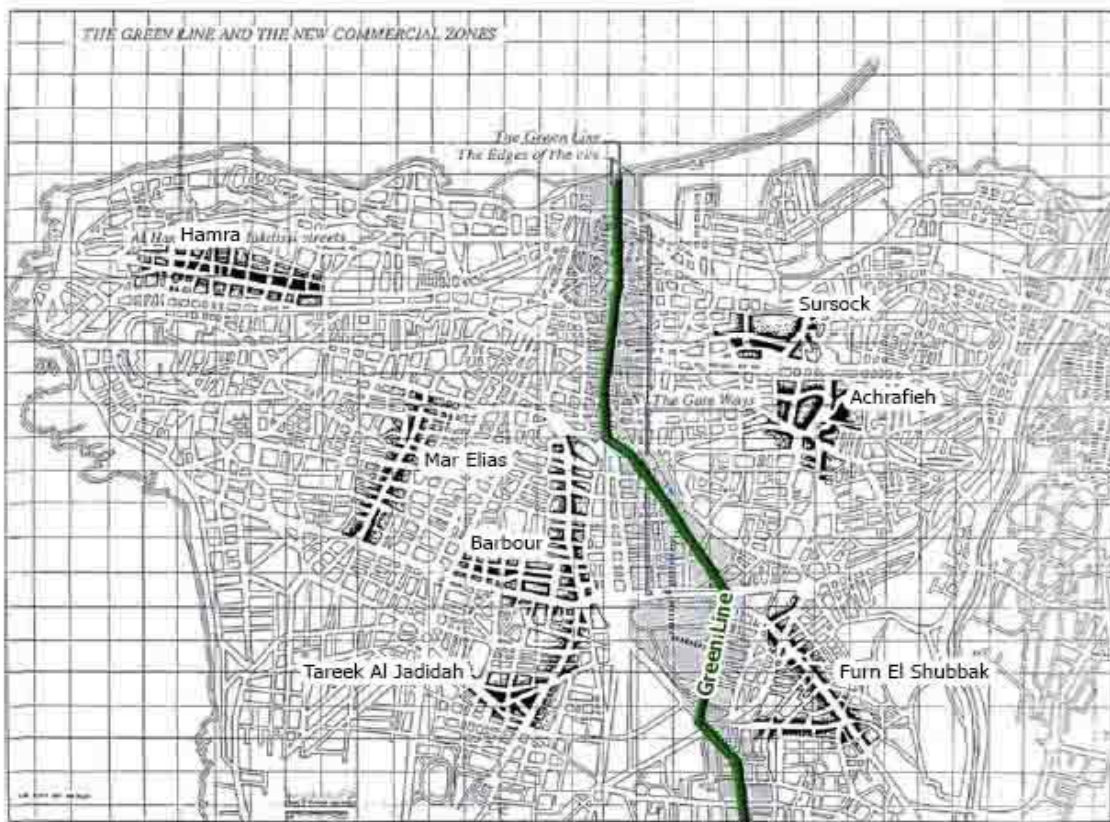


Figure 12. The Green Line and the decentralization of the economic activity (Source: Kabbani,1989)

⁶ Mar Elias, Mazra'a, Hamra, Achrafieh, Jdaide- Antelias and Kaslik-Jouniyé (Davie,1993).

In 1989, the war ended with the Taif Agreement, which suggested the dismantling of barricades. Nevertheless, the demarcation line was deeply rooted in people’s minds, and over time sectarian dimension coupled with the socio-economic dimension became more pronounced, leading to both a divided and fragmented Beirut (*Figure 13&14*)

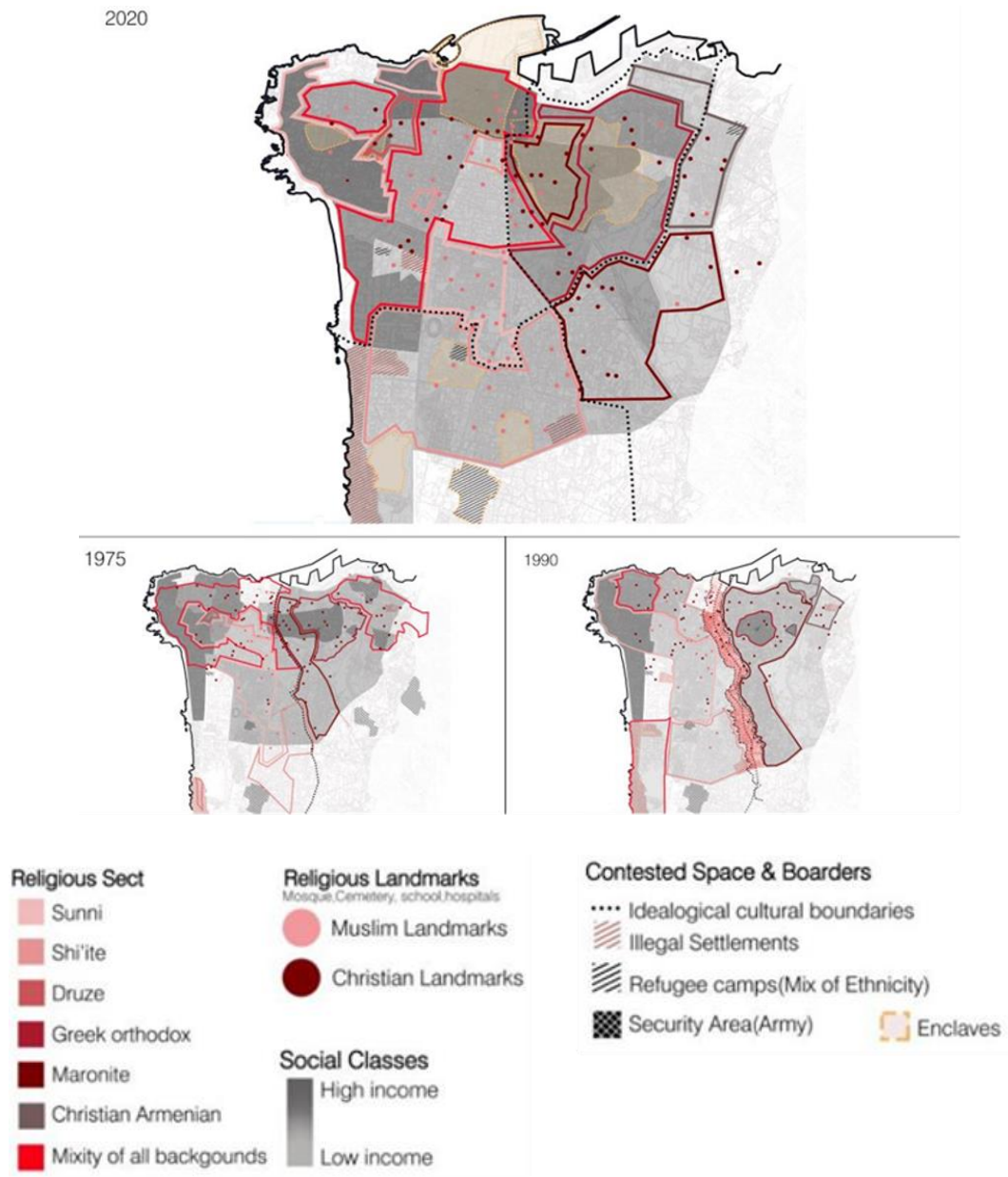
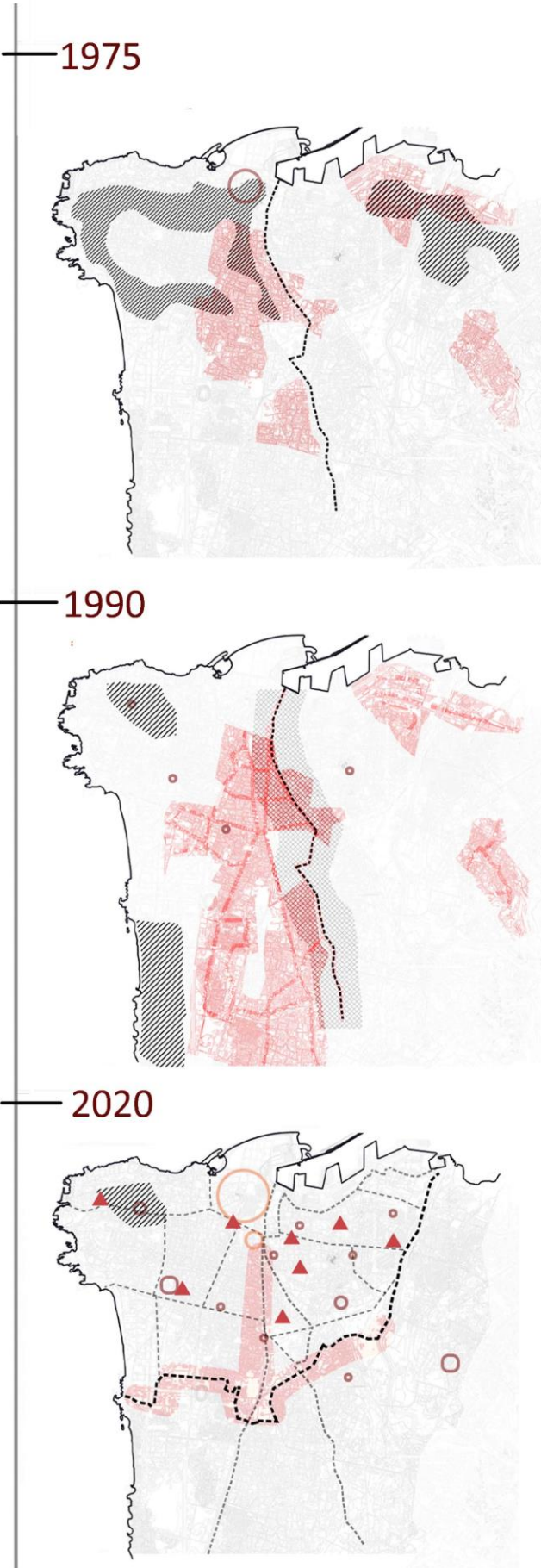


Figure 13. Beirut from a divided to a fragmented city (Source: Author, 2019)

Figure 14. Summary of the neoliberal restructuring of Beirut from 1975 until 2020 (Source: Author,2020)

- ▨ Religious Mixture
- Tension zones
- Fault lines
- ▲ Gentrification
- Commercial Activities
- Urban Renewal



B. Previously proposed plans for Beirut's Green Line



Figure 15. Green Line artistically illustrated [Collage] (Source: Johnny Alam,2015)

According to Kabbani (1989), Beirut's Green Line holds the image of a divided Beirut, a history of numerous sectarian conflicts. After the war, the city experienced nation-building plans inspired to turn Beirut into a global city⁷ (Gavin,2015). Those plans created salvation-like amnesia intended at erasing any form of war-related memories. The following case studies describe urban design strategies, which aimed at stitching the open wound at the heart of a post-war Beirut (*Figure 15*).

1. 1989- Beirut: The arena of conflict. A vision of optimism by Oussama Kabbani

Oussama Kabbani Urban Design Master Thesis was completed one year before the end of the civil war in 1989, which saw the potential of the Green Line as a shaper for Beirut's future.

Kabbani perceived the Green Line as a neutral line, intersecting two separate communities, yet not uniting them. He believed that Beirut must be grasped as an

⁷ Renewal schemes followed the "laissez-faire" development, widely identified as a successful model of center regeneration, seeding opportunities for large-scale foreign projects.

“Urban Mosaic”, a group of communities living next to each other. Thus, he envisioned the Green Line as the backbone of the city, aiming at stitching the city back together (Kabbani,1989). However, Kabbani perceived divided Beirut as a solution rather than a challenge, seeking to understand and foresee its future progression, in order to adapt to it rather than erasing it. Hence, he conceptualized the Green Line as a no-man’s land, holding a dual identity, allowing for possible future coexistence. His solution is, therefore, to stratify the separation but leave an opening for possible interaction.

At the periphery and suburbs, his intervention was in response to the social conditions at that time, where separation was still needed. As a result, he widened the Beirut-Damascus highway passing through Chiyah-Ain el Remmaneh and highlighted the social polarization by surrounding it by a green belt, eliminating any reason for interaction. To counter this action, Kabbani designed a commercial center at the Tayouneh roundabout for social gathering. Furthermore, towards the North, the Pine forest was transformed into a major park, including many sorts of episodic spaces. Moving further to the North, the drive from the National Museum to the Ras el Nabeih area was emphasized by creating a vivid visual experience, with the marking of a national monument. The latter marks the start of a cultural island, the peri-center zone of Beirut, which acts as a hinge (*Figure 16*). This zone was defined by a double route typology, filling the avenue with spaces reminiscent of the civil war, connected through a system of pocket gardens and parks. The last segment, which corresponds to the central part, currently Martyr square, has been perceived as a place for social integration, where the vehicular flow was transferred into an underground tunnel, freeing the ground level for the pedestrian, thus encouraging connections across both sides. In order to enhance social activities, the square was aligned by commercial

arcades, a linear structure accommodating several restaurants that gave access to the souks. The axis across the plaza allowed for a promenade towards the waterfront esplanade.

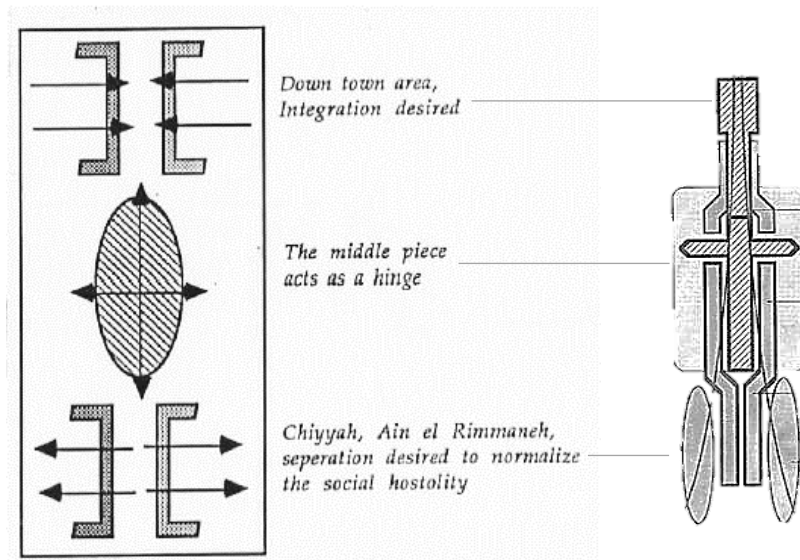


Figure 16. Kabbani’s vision (Source: Kabbani,1989)

The mechanism of implementation would require a public-private venture that would regulate the waterfront development, a landfill that will become part of a development scheme. Kabbani suggested that public authorities should expropriate lands all along the Green Line for future development (cheap land due to condition). In conclusion, according to Kabbani, post-war reconstruction should be approached with “great social concern”, celebrating “the social mosaic” and “accepting and accommodating rather than rejecting and camouflaging”. Thus, turning “nobodies land” to “everybody spaces” (*Figure 16*).

2. 1993- The IAURIF plan by AAA

In 1993, amidst post-war reconstruction plans for Beirut, CDR assigned the IAURIF to present a master plan for the Green Line. Unlike Kabbani approach, IAURIF vision is to negate the effects of the war and seek to erase traces of a ‘divided Beirut’. The study stretches from the Ring Road, one of city center gates, till the end of the Old Saida Road at Mar Mikhael church. First, the plan proposes “poles” or nodes located at key road intersections, which become spaces of encounter and exchange, contributing to the process of reconciling the city's people. (Figure 17).

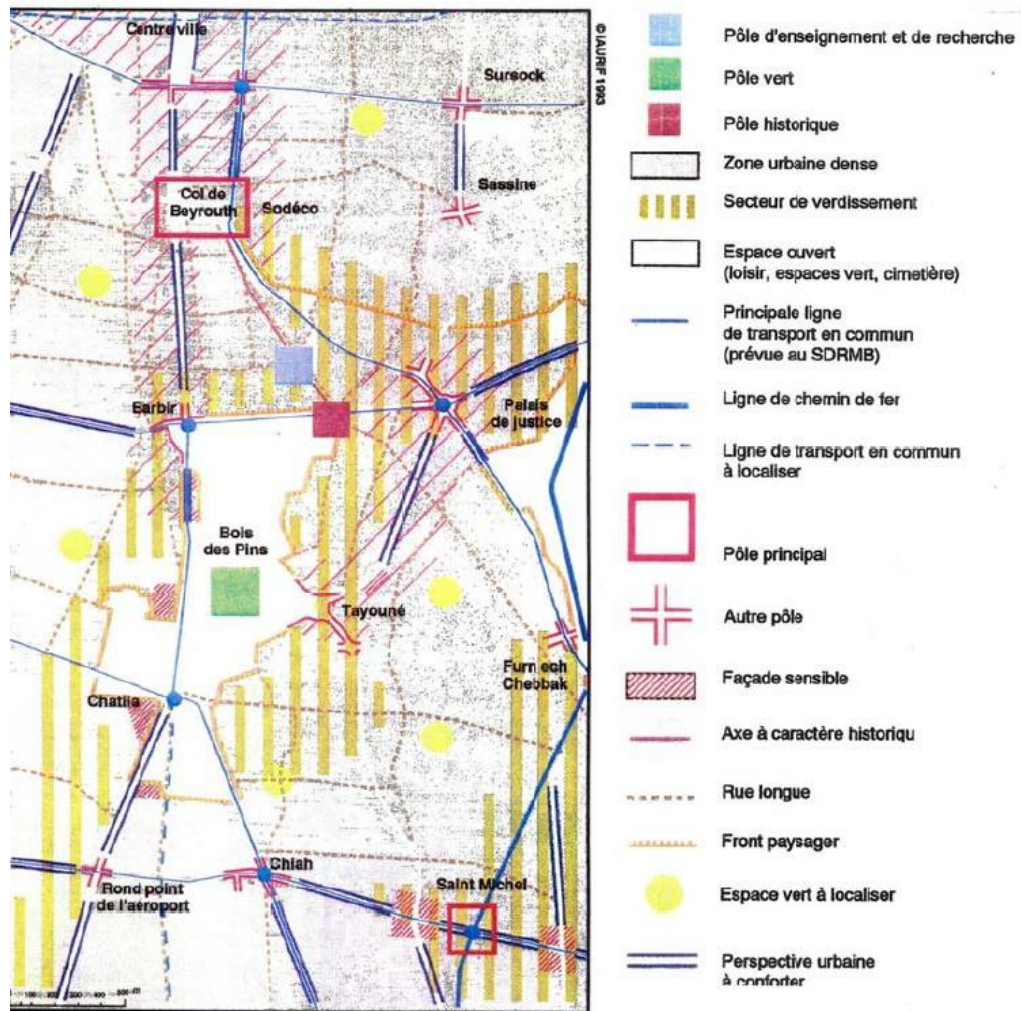


Figure 17. Masterplan scheme of IAURIF [Map] (Source: IAURIF,1993).

Second, IAURIF proposes many design guidelines in order to shape the character of the neighborhood, which includes densification, right of ways, streetscaping, and greening. It proposes a network of shared spaces and green pockets called “Green liaisons”, stretching from the city center to the pine forest, in order to improve connectivity (Figure 18). Regarding the implementation phase, it balanced between a real estate company designing the whole district or the application of a regulatory approach on “pole principal”.

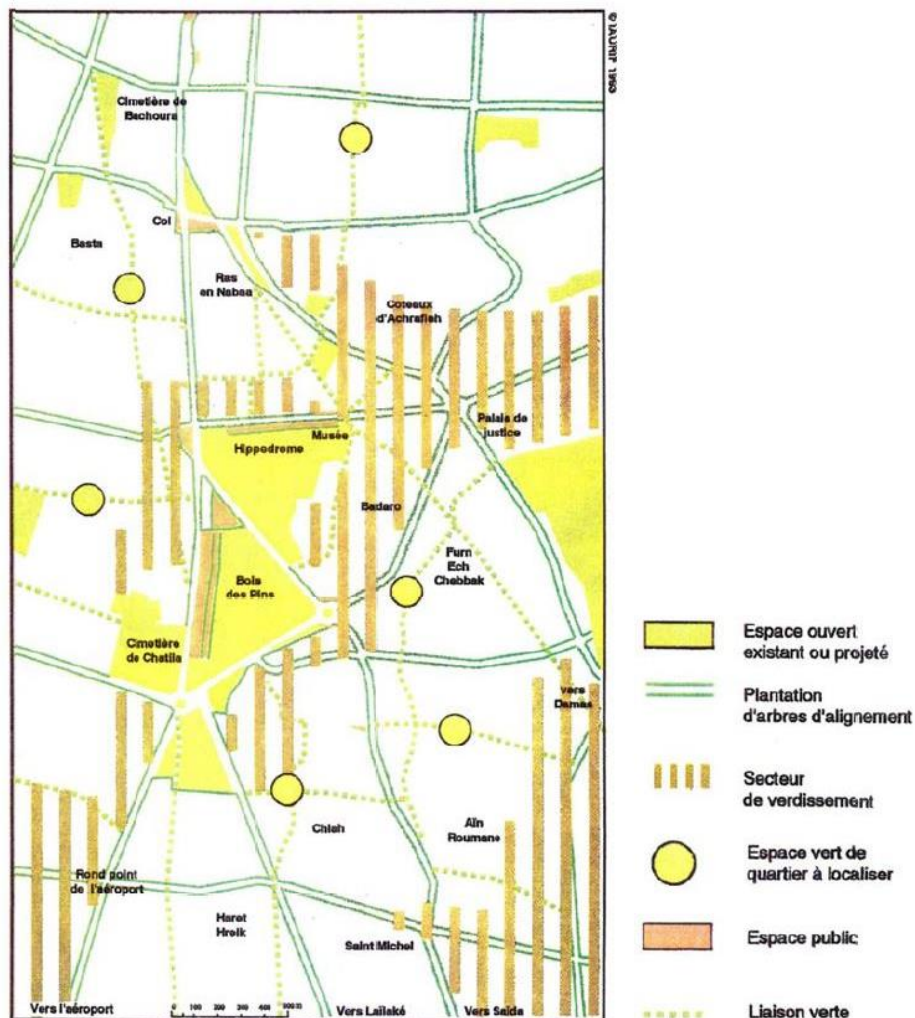


Figure 18. Greening plan for the surrounding neighborhoods along the Green Line [Map] (Source: IAURIF, 1993).

3. 1997- ASPAD study

In 1995, the Minister of Culture commissioned APSAD to survey the buildings constructed before 1945. The survey covered the pericentral areas of Beirut, including Medawar, Rmeil, Mina el Hosn, and part of Achrafieh.

The scheme aimed to preserve buildings with architectural and historical significance to improve the visual permeability of Furn el Hayek area (*Figure 19*). Red buildings represent listed heritage buildings, and the blue areas include open spaces that have value because they are either gardens of a heritage building or are crucial to the fabric homogeneity. Both red and blue parcels are lands where the buildable area is not fully used, hence, the study suggests the protection and regulation of both to prevent the break of a homogenous urban fabric. Yellow parcels are fully developed lands that benefit from an upgraded streetscape, similar to the orange outlines, which are additionally well served by infrastructure and have the potential to receive Transfer of development Rights from the blue area (Jabr & Dagher,2014).



Figure 19. Surveying by ASPAD group [Map] (Source: (ASPAD,1997).

4. 2011-Liaison Douce by Urbi + Sitram

“Liaison Douce” is the latest project developed for the Green Line. The municipality of Beirut financed it with the technical consultancy of Ile-de-France (Shayya, Asfour & Salman, 2012). The project is designed by Habib Debs urban planning and design firm (Urbi) with Sitram consultants. The soft mobility scheme aims for integration and the re-conceptualization of the Green Line as a green landscape strip, which improves the connectivity and legibility of the area while erasing the traces of the dividing Green Line. The plan reduces traffic, widens sidewalks, proposes a bike lane, and adds pedestrian crossings. The improvement of the public domain is thus achieved by creating a safe environment for the residents. The soft mobility plan focused on the Northern Section of Monot Street and the Southern section of Damascus Road (*Figure 20*).



Figure 20. Liaison Douce plan (Source: Debs,2011)

The soft mobility plan focused on the northern Section of Monot Street and the southern section of Damascus Road, and aims at preserving the identity of the site by creating essential nodes. The design proposes a landscaped green space, under the ring road, one of the southern gates to BCD (*Figure 21*), which aims at connecting the center of Beirut to its peri-center.



Figure 21. Design plan of the Southern gateway plaza (Source: Debs,2011)

The second node is a designed amphitheater near “Beit Beirut”, a preserved and prominent heritage building. For many years, activists battled to save the building from being demolished; it was not until 2003 that the government decided to expropriate it. It is currently a public culture center for documentation and a museum to memorialize the Lebanese civil war. (*Figure 22*). The creation of an open space and the pedestrianization of part of Damascus Road sheds light on the importance of Beit Beirut.



Figure 22. Design plan of the amphitheater near Beit Beirut museum (Source: Debs,2011)

C. Conceptual plans for Beirut's Green Line

1. 2009: *Reframing the city: A monument of radical neutrality*

“Reframing the City: A Monument of Radical Neutrality” is a project by Fadi Mansour (2009), a student at the Architectural Association in Diploma School and the Projective Cities program.

The notion of public and private spaces is difficult to conceptualize, particularly in Beirut (Saliba,2015). Interrogating this situation, Mansour attempted to re-strategize the void of the Green Line as a linear and neutral public infrastructure under the auspices of the Lebanese University, a public institution for higher education in Lebanon. The project resolves the issue of territorialization of spaces and finds potential in the Green Line as grounds for coexistence. Inspired by Le Corbusier's Venice Hospital project of 1965, Mansour developed an elevated mega-structure composed of inverted conical modules of different sizes, which would cover the entire Green Line and its surroundings. The design

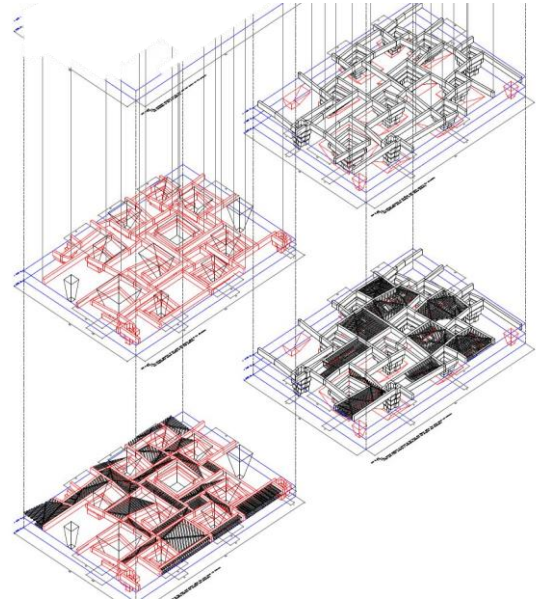


Figure 23. Module development (Source: Mansour,2009)

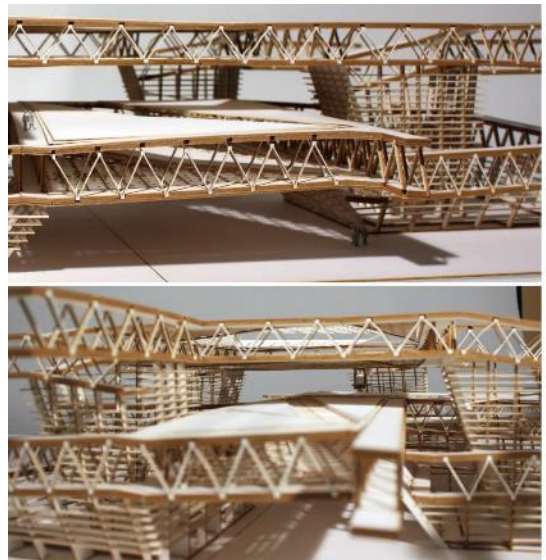


Figure 24. Three-dimensional model (Source: Mansour, 2009)

scheme stems from a study of mat-buildings, constituted of a horizontal low-rise grid, arranged by a uniting system of repetitive modules (*Figure 23*). The structure itself becomes part of the city and part of the building fabric, with vertical structural shafts percolating through different layers, which serve as circulation (*Figure 24 & 25*).

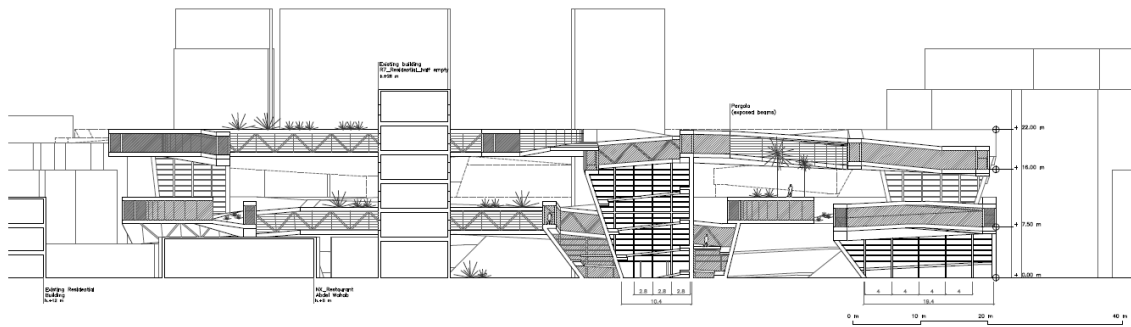


Figure 25. Longitudinal section of the project (Source: Mansour,2009)

Those raised platforms would aid in the urban redevelopment of the scarred tissue, by becoming an incubator for public programs, while annexing abandoned and destroyed buildings and open spaces into the mega-structure through small pathways emerging from the ground level (*Figure 25*).

This continuous hovering slab would act as a “High Line”, reinforcing the edge of the Green Line, while maintaining it as a void; yet, this void itself is transformed into a permanent monument (*Figure 26*). Hence, this project transformed a former zone of conflict into a neutral segment where encounter and exchange can occur, a monument encompassing a mix of urban spaces which claims “political and social autonomy as conditional to academic institutionalization” (Jacoby,2015)

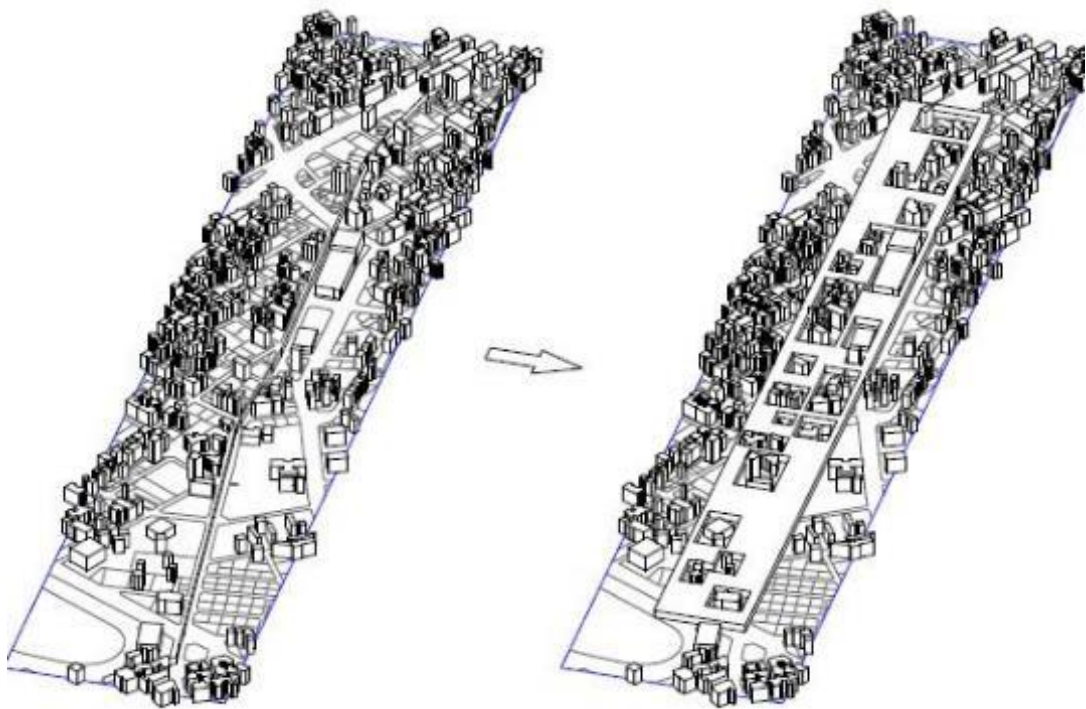


Figure 26. The elevated structures isonometry (Source: Mansour,2009)

D. Conclusion: Lessons learned

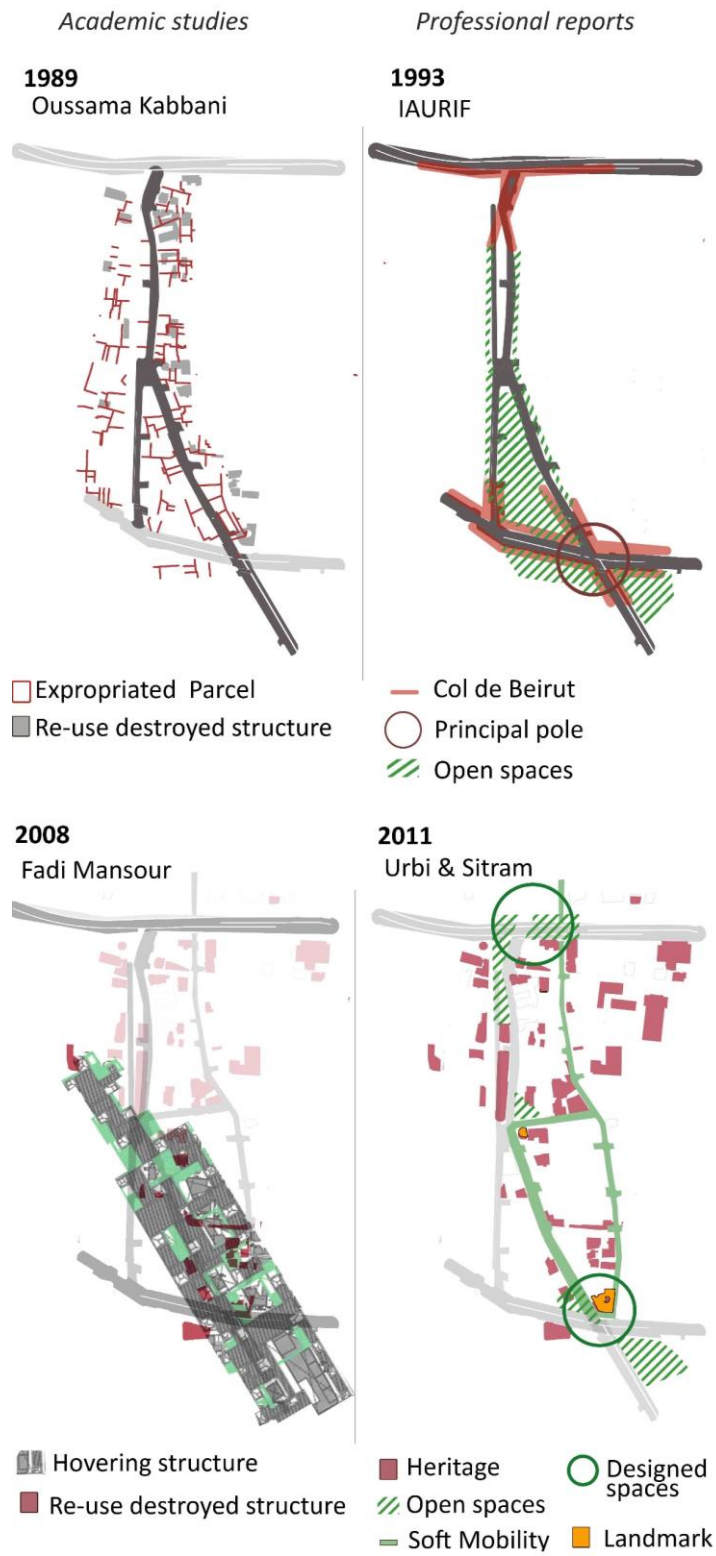


Figure 27. Lessons learned from local case studies (Source: Author,2020)

Kabbani, Fadi Mansour, and Urbi + Sitram projects tackled the Green Line as a linear path, while IAURIF incorporated both the edge and its surrounding. While all four projects were responsive to the social condition of their times, they all shared the concept of connectivity, as a tool of integration, and the economic development of the area as a tool for the revival of the area. Kabbani's response opted for segregation where separation was still needed, thus adapting to the Green Line, unlike IAURIF, which aimed at erasing all traces of it and its surrounding. The Liaison douce project came as a revised concept of "green liaisons" found in the IAURIF project, which turns this grey infrastructure back to a green infrastructure, while also turning it into a social and ecological infrastructure. The project improves the permeability, legibility, and connectivity of the site, which includes the creation of cultural promenades, pedestrian networks, and pocket parks. Finally, Fadi Mansour's project proposes a conceptual approach, which takes all previously discussed elements and organizes them into one mega structure, allowing it to become part of the public domain, a campus under the auspice of a public institution. Thus, turning the Green Line into an element governed by the multiple images it has ever embodied. Finally, a common design strategy among all projects was the concept of commemoration that introduced Beit Beirut as a Memory museum (*Figure 27*).

The following table (*Table 1*) extracts the main strategies each project has undertaken while summarizing how international and local teams responded to post-war landscapes.

	Responsive action to border	Identity	Connectivity	Open and public space	Private development
Oussama Kabbani	Segregation & Responsive to the social dynamics at that time	- Cultural centers and museums. - Re-use of Beit Beirut and some gutted buildings	- Segregation through highway -Integration through underground traffic	-Pocket gardens & Parks	-Expropriation
IAURIF	Integration and erasure of past division	-Densification	-Designation of “poles” -Streetscaping -Right of way	-Green pockets	-Real estate company - Regulatory planning
Urbi + Sitram ‘Liaison Douce’	Integration and erasure of past division	- Re-use of Beit Beirut -Identifying main landmarks, such as Yabani, Burj Ghazal, USJ - Amphitheater design facing the museum of memory.	-Soft Mobility -Bike lane -Crossing	-Designing and landscaping of two big nodes	-Expropriation -TDR(ASPAD) -Regulatory planning
Fadi Mansour	Neutralization of past division through new programs	-Green line as a void -Densification -Re-use of Beit Beirut and some gutted buildings -Campus related activities	-Elevated matt building system with connected pathways from the GF	-Open spaces connected from the GF and incorporated with the elevated structure. City and structure make one.	-PPP

Table 1.Comparative and synthetic matrix (Source: Author,2020)

CHAPTER IV

AN UNRESOLVED INTERFACE – BEIRUT’S GREEN LINE

This chapter provides a detailed account of the study conducted on the Southern entrance of Beirut’s Central District in the context of the urban design and planning workshop titled “Planning for Resilience: Decoding and Recoding Beirut’s Spatial Patterns of Fragmentation” of fall 2019 semester. The workshop revolved around the main theme of ‘Planning and Design for resilience’ with an emphasis on ‘border zones as areas of both integration and segregation’. The aim of the workshop was a) to investigate the changing identity of the study area from a demarcation line to a border zone in transition; b) to assess its current socio-spatial and market-led development dynamics; and c) to formulate a set of ‘resilient’ urban planning and design guidelines for its reintegration in its economic, social and spatial context. The workshop proceeded in five stages:

1. Definition of the study area’s boundaries and internal structure
2. Investigation of the historical and spatial development with an emphasis on the postwar period extending from 1990 until now.
3. Identity and connectivity appraisal leading to a critical understanding of the development dynamics, and susceptibility to change.
4. Stakeholder and SWOT analysis identifying strengths, weaknesses, opportunities, and constraints on the short, medium and long term; and development of urban design and planning strategies of intervention on the short, medium, and long terms (Appendix).

5. The appendix includes the proposed urban design and planning scheme developed during the workshop.

All illustrations in this chapter were developed in collaboration with the workshop team and revised by the author (except where otherwise mentioned).

A. Definition of study area's boundaries and internal structure

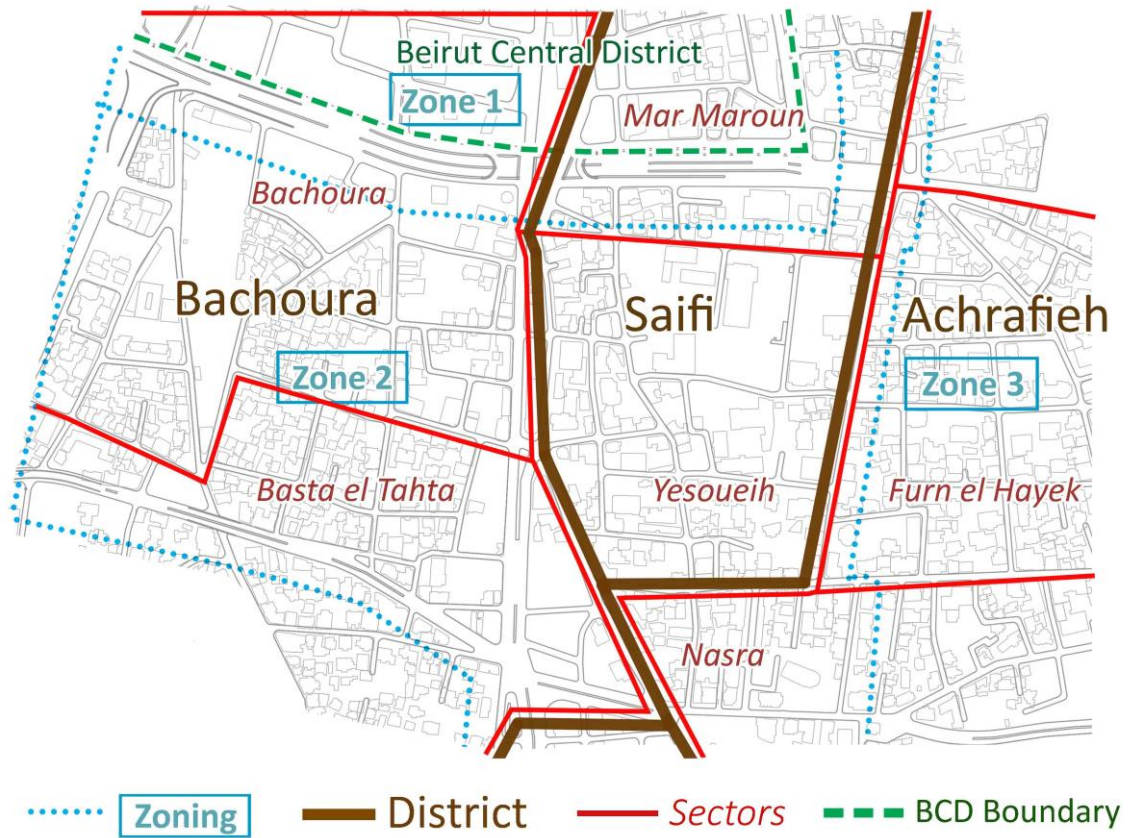
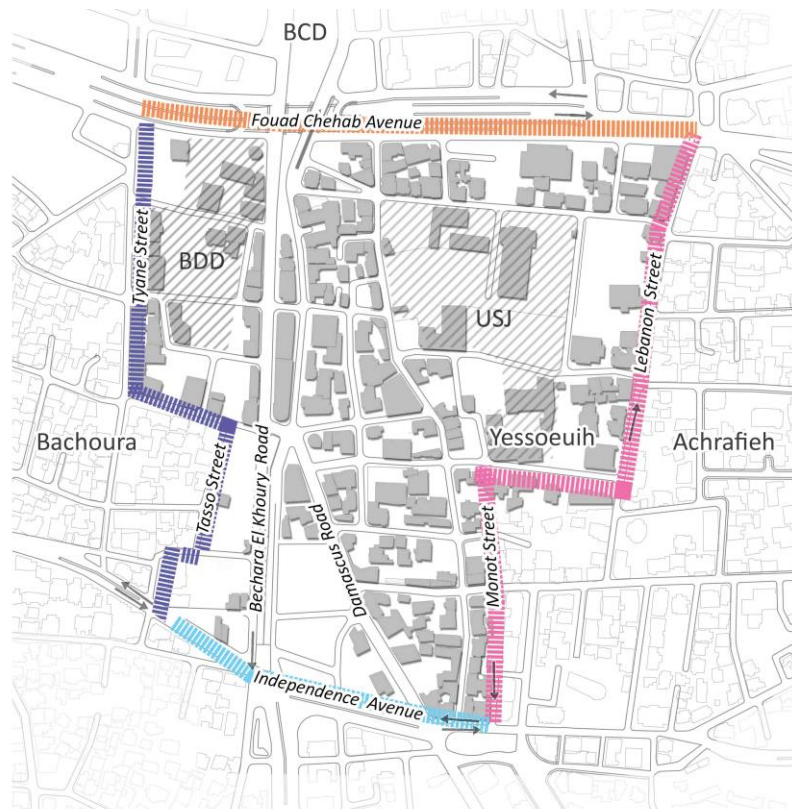


Figure 28. Administrative and zoning boundaries

The study area in context extends from Beirut's Central District (Solidere) to the North, and Independence Avenue to the South. It overlaps on the Yesouieh and Nasra administrative sectors to the East, and on Bachoura and Basta el Tahta to the West (*Figure 28*). Both the Eastern and Western sectors share the same zoning regulations (Zone 2) except for the edge along the Fouad Chehab Avenue (Zone 1).



A NORTH BOUNDARY

The Northern boundary is defined by the Found Chehab Avenue, which acts as a divide between Downtown and the study area. This division is characterized by a shift in spatial morphology (Physical fabric and Land-use).

B SOUTH BOUNDARY

The Southern boundary is defined by the Independence Avenue, which acts as a spatial divide.

C WEST BOUNDARY

The Northern section of the Western boundary follows Tyane street, which is the limit of the BDD compound. While the southern section follows the edge of Bechara El Khoury Road due to the sharp change in spatial morphology

D EAST BOUNDARY

The Northern section of the Eastern Boundary follows Lebanon Street, while the Southern section follows an offset of one row of buildings from Monot Street. This boundary is a divide between two districts (Saifi and Achrafieh), which is characterized by a shift in the land-use from cultural/institutional (USJ) to a residential one

Figure 29. Definition of the Study area's boundaries

The study area boundaries were defined with reference to the changes in spatial morphology (physical fabric and land use) and the presence of edges as streets and highways, as explained in *Figure 29*.

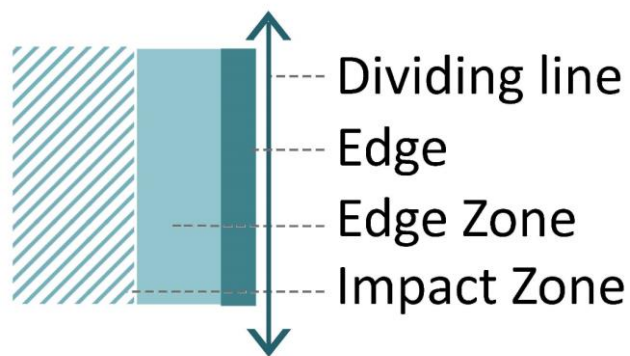


Figure 30. Border zone components

In order to define the study area's internal structure, a model of 'border zone' components was created consisting of the following elements (*Figure 30*).

- Dividing line refers to the corridor space that marks a functional/sectarian divide between adjoining districts.
- Edge denotes the fronting lots and buildings in terms of their functional and spatial- defining characteristic, and their level of permeability.
- Edge zone denotes the adjoining blocks in terms of their activity patterns, morphology, and built environment characteristics.
- Impact zone indicates the adjoining districts in terms of their dominant function and development dynamics.

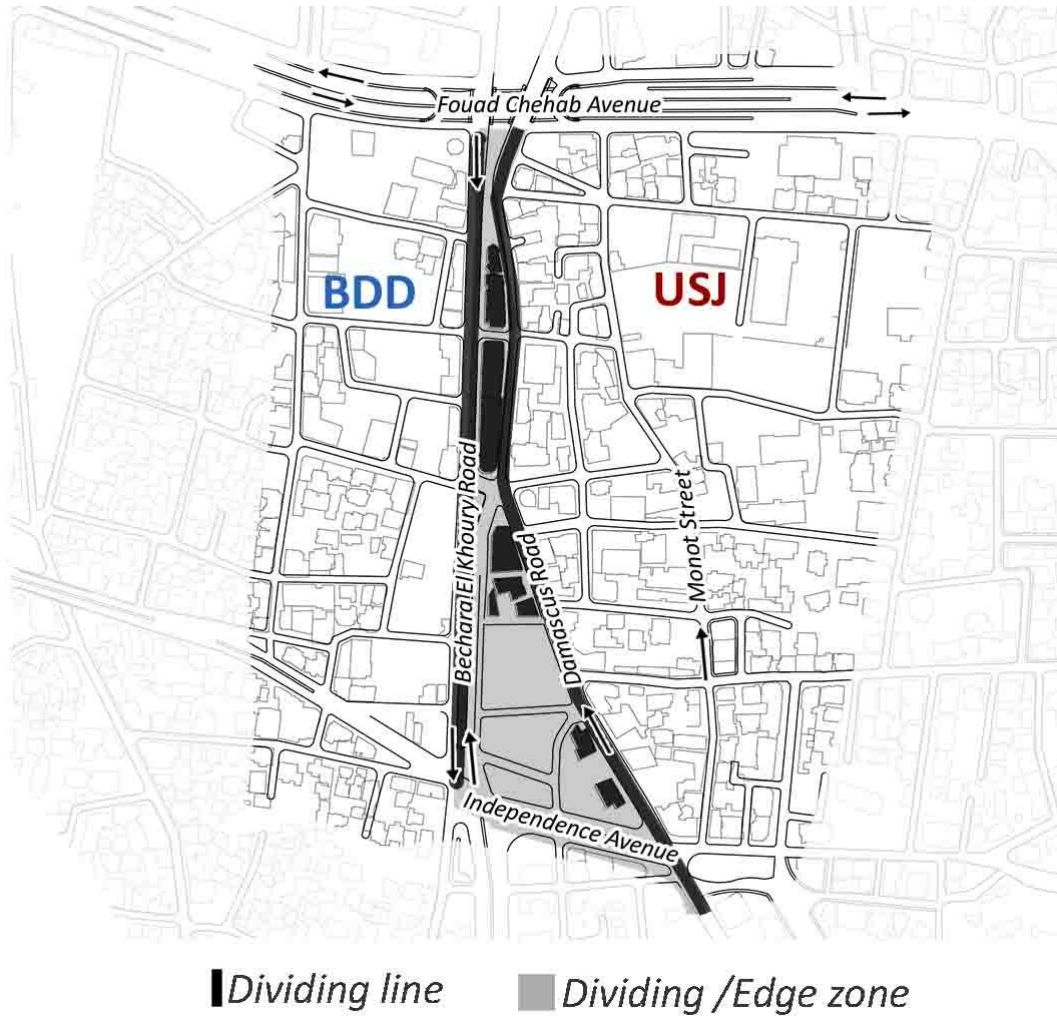


Figure 31.The dividing corridor zone

Following this model, the dividing line, or corridor space, corresponds to the two contiguous traffic arteries accessing Downtown, i.e., Damascus Road inbound (the former Green Line) and Bechara el Khoury Road outbound, connecting the city center to the outskirts. Both arteries segregate the study area into distinct Eastern and Western border zones (*Figure 31*).

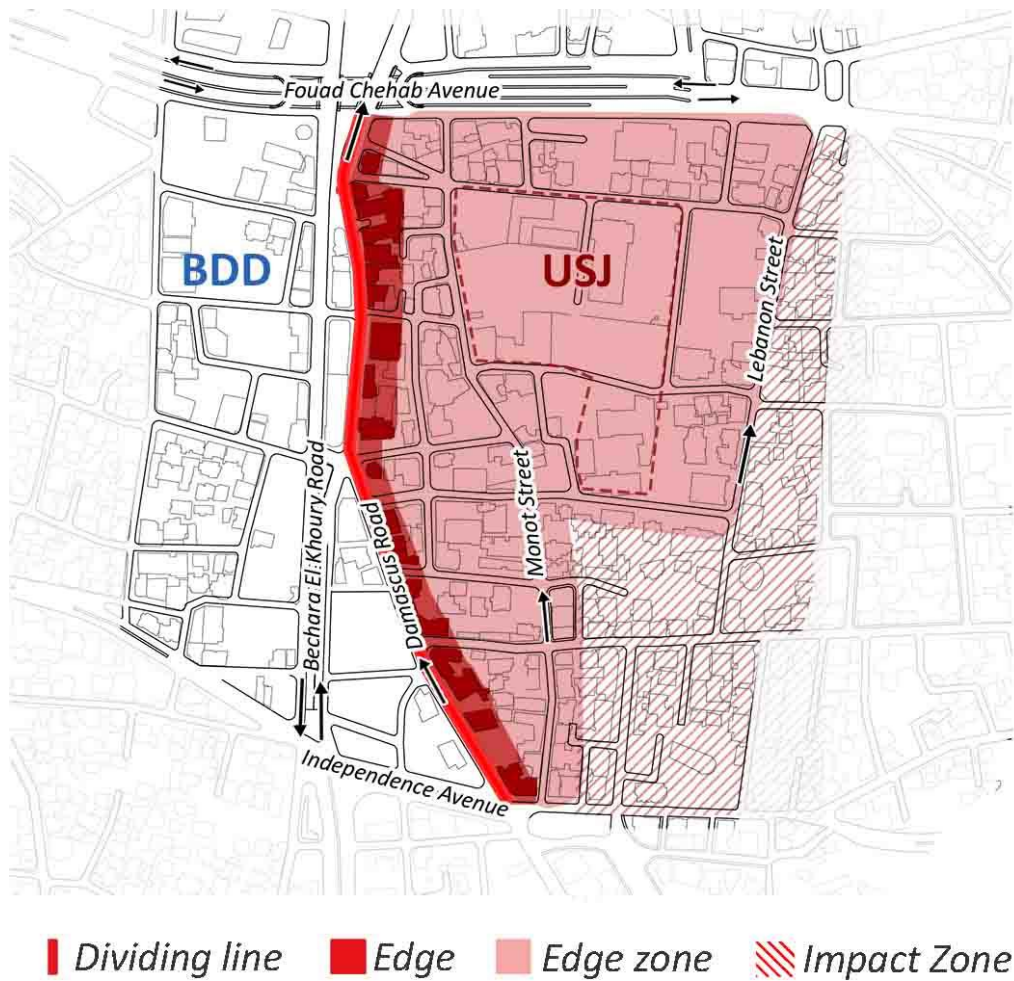
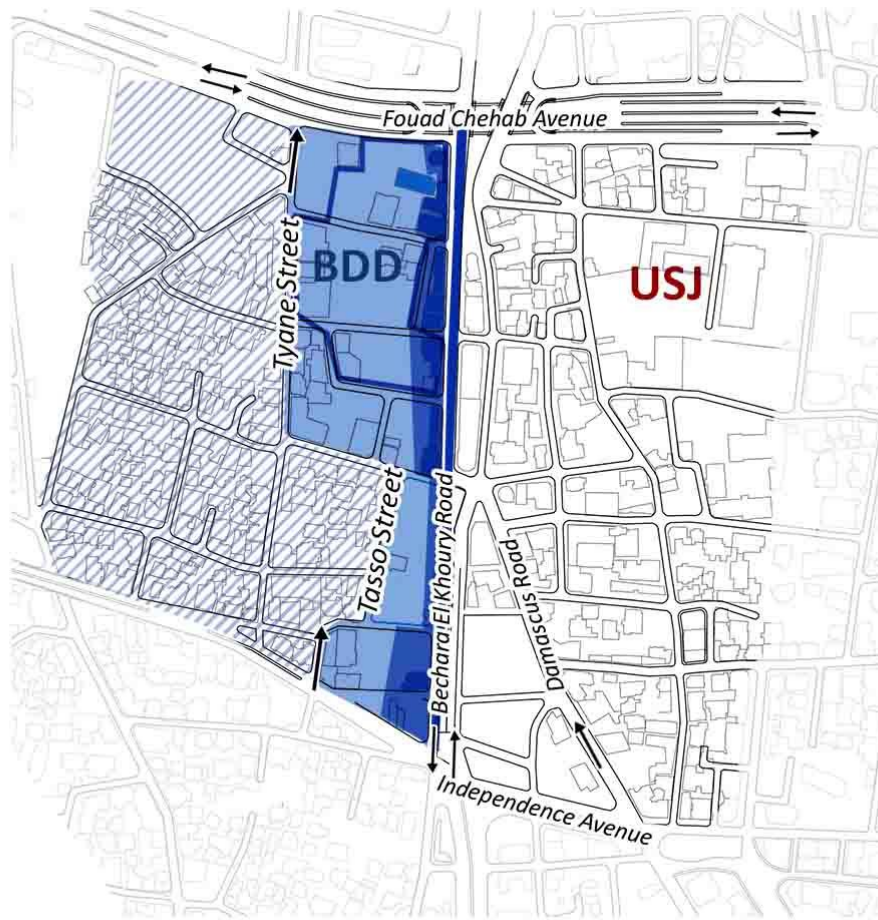


Figure 32.The Eastern border zone

The Eastern border zone along Damascus Road includes a transitional area or ‘edge zone’ with a mix of colonial period (Late Ottoman and French mandate) and 1960s buildings initially impacted by the war and currently subject to temporary renovations for restaurants, night clubs, fast food and coffee outlets. This edge zone is delimited by Monot Street, the main commercial and entertainment spine of the Yesouieh sector, and extends eastward to Lebanon Street. The Yesouieh sector is a mixed-use educational and residential district that may be qualified both as edge and ‘impact zone’ of the study area due to its predominant function as campus district and its adjacency to Damascus Road (*Figure 32*).



Dividing line
 Edge
 Edge zone
 Impact Zone

Figure 33. The Western border zone

The Western border zone is clearly defined by a continuous frontage or ‘edge zone’ along Bechara El-Khoury Road with street-aligned office building developments and ground-level commercial uses. This highway frontage constitutes the Eastern boundary of the Bachoura sector, an old residential neighborhood subject to an intensive process of gentrification, mainly due to the recent development of Beirut’s Digital District (BDD). This multiple block complex of office buildings, overlooking Fouad Chehab Avenue and the city center, can be qualified as both an ‘edge zone’ and ‘impact zone’ due to its large scale and its catalytic effect on the Bachoura sector (*Figure 33*).

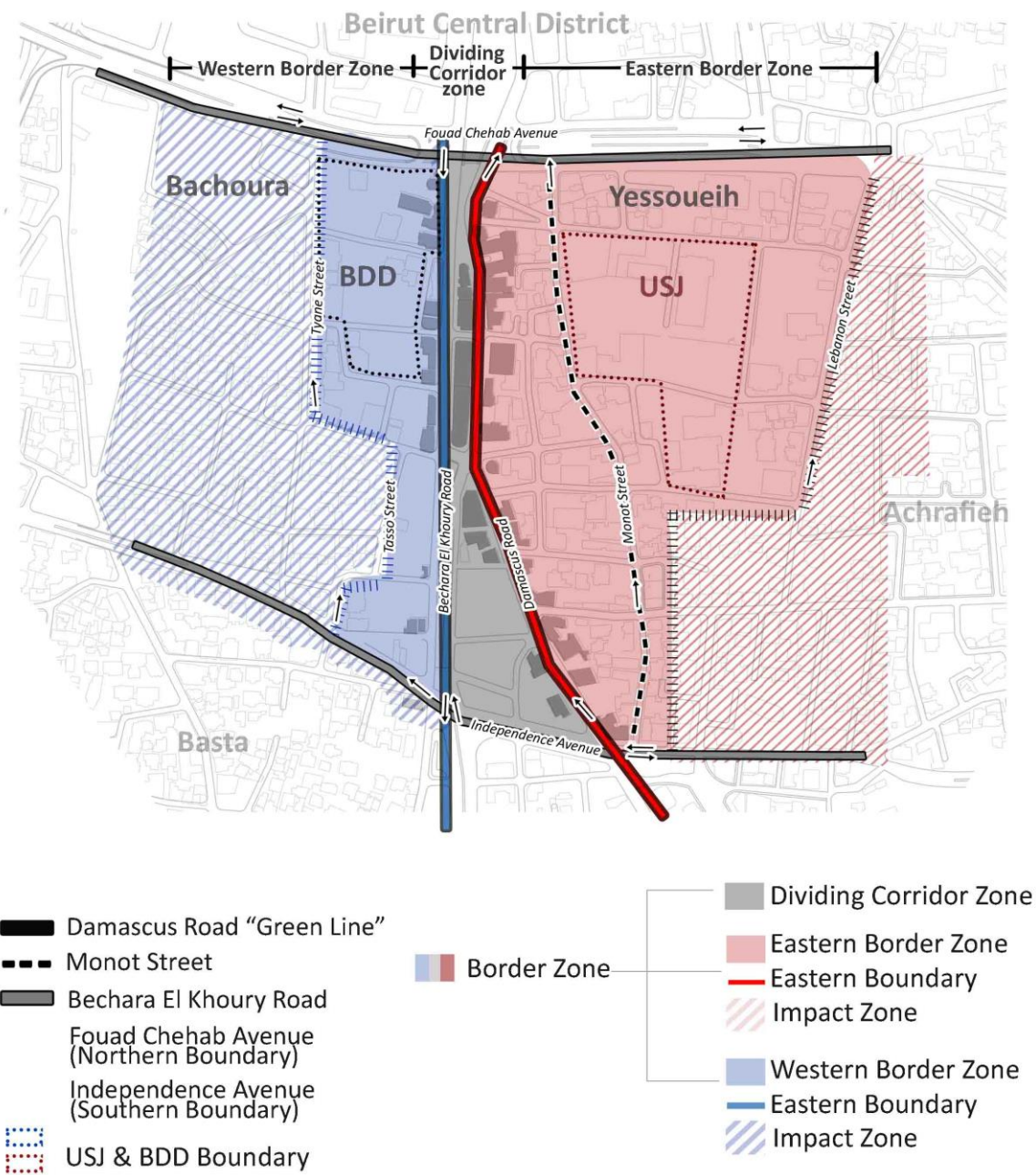


Figure 34. The study area's internal structure

B. Historical and spatial development

The historical and spatial development analysis provides a brief overview of the evolution of the study area from the mid-19th century until now, with emphasis on the post-war period; with an aim in tracing the changes in the identity of the Green Line in response to political, social and market dynamics.

1. The Prewar period

Due to its strategic location, the Southern periphery of Beirut's city center underwent a fast and continuous urbanization process from farmlands in the 1840s, to garden suburbs in the 1870s, to inner urban districts in the 1940s (Saliba, 1998). The construction of Damascus Road and later of Bechara El Khoury Road clearly segregated the study area into a Christian district to the East around USJ (Yessouieh, Nasra), and a predominantly residential Sunni district to the West (Bachoura and Basta el Tahta) (*Figure 35*).

The origin of Saint-Joseph University, the first French-speaking Jesuit institution in the Middles East, dates back to the foundation of Ghazir school by the Jesuit fathers in 1843. In 1872, Father Ambroise Monot, head of the missionaries of the Société de Jésus in Syria, bought 13 000m² of land in Achrafieh, on which he built a printing press, a church, a school, and a library (Herzstein, 2007) (*Figure 36*).

The university compound (*fig.35*) instigated the development of a residential neighborhood named after the institution (Yesoueih), predominantly inhabited by a French-speaking local bourgeoisie, and exhibiting a high concentration of Late Ottoman and French Mandate period buildings. With the construction of the Fouad Chehab Avenue in the 1960s, the Yesouieh sector was spatially detached from the city center.

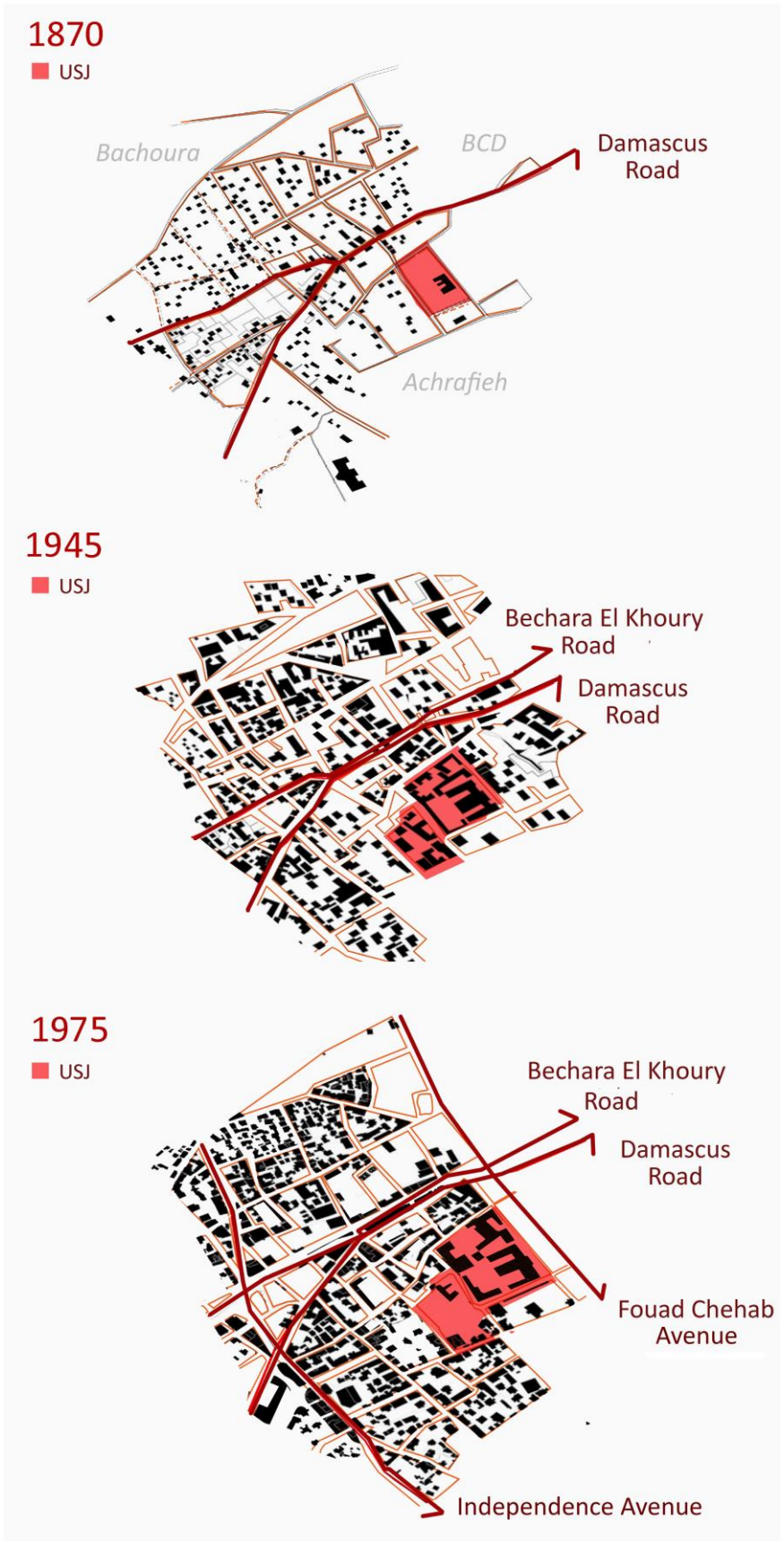


Figure 35.
 Historical development of the study area
 (Source: Author,2020)

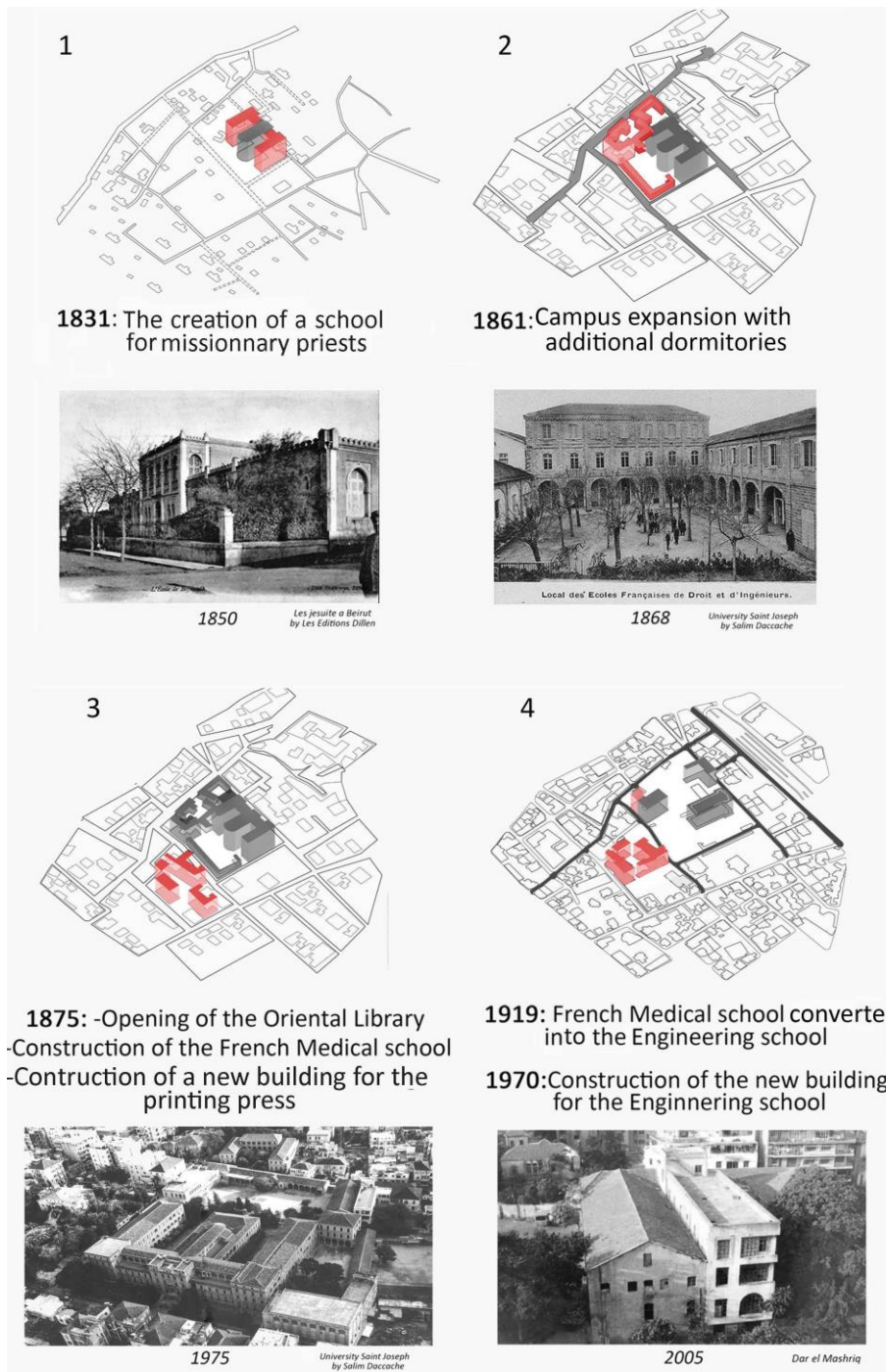


Figure 36.
The historical evolution of St. Joseph University compound

(Source: Author, 2020)

The French missionaries, who intended to train the local Maronite clergy, were transferred to Beirut in 1875. For years, the printing press was actively producing religious and education books. In 1970, the Jesuits had to sell part of their lands to fund a school they have established in Baabda.

2. *The war and post-war Period*

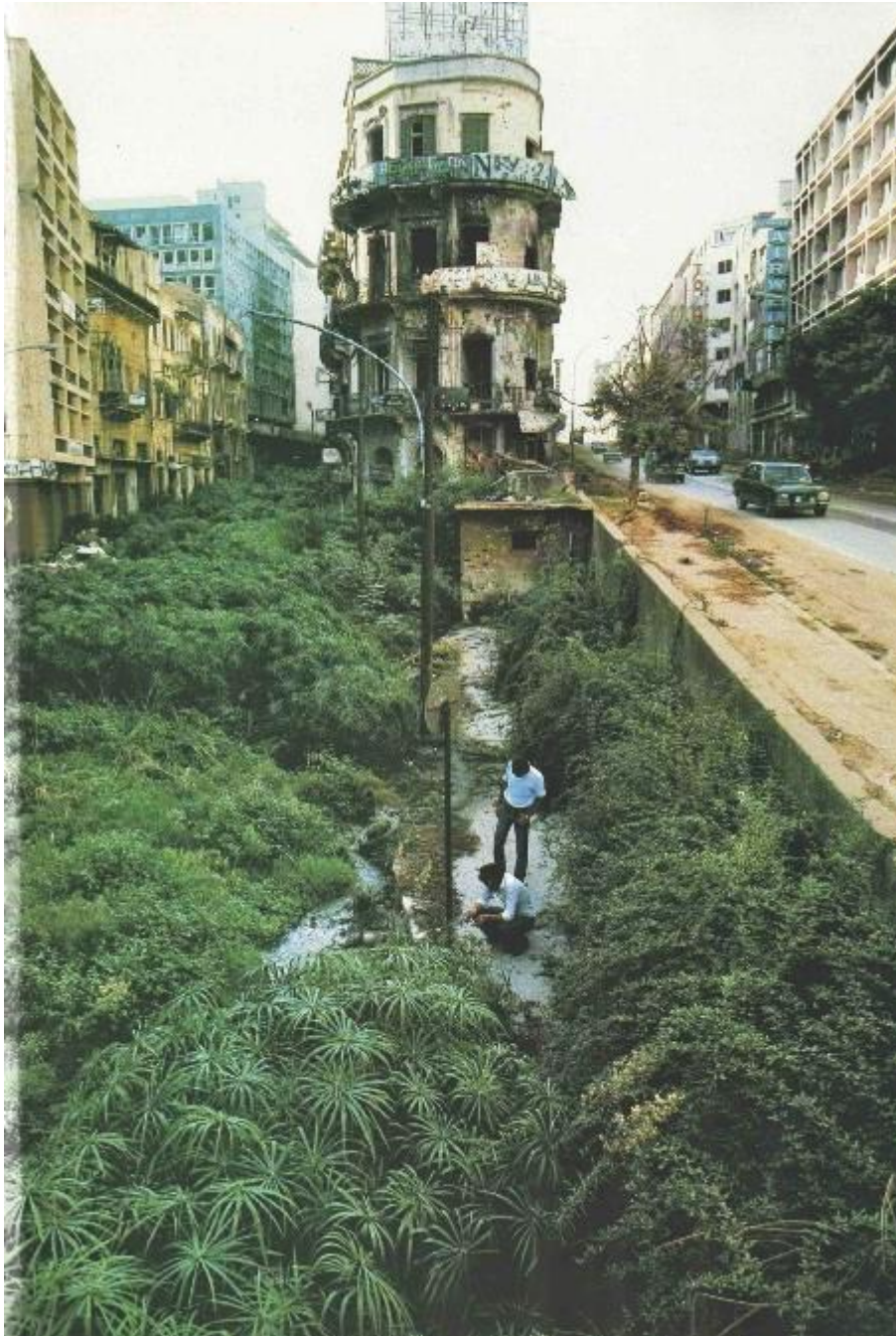


Figure 37.
The
conditional
situation of
the Green
Line after 15
years of war.

(Source:
Gabriel
Daher, 1982)

From 1975 to 1990, Damascus Road and its surrounding became part of the warfront dividing the city into East and West Beirut (the Green Line) (*Figure 37*). This border zone was considered the most heavily impacted section of the city due to 15 years of war-inflicted destructions.

With the end of the civil war, the Green Line was dismantled, bringing back the aspiration for a “re-unified” Beirut. Owners and residents came back to reclaim their properties, some landmarks were restored, and so the neighborhoods came back to life progressively. Restaurants and printing services opened along Monot Street, attracted by cheap rents and USJ’s student population. According to Mr. Michel Nasr, the Mokhtar of the Saifi sector, “the restaurants opened in old buildings because it was costly to build in the sector” (Saroufim, 2006). Within ten years, Monot transformed into one of the city’s “trendiest neighborhoods”, bursting with shops, restaurants, and nightlife hotspots. In May 2004, the number of bars and restaurants reached 170 (Gerbai, L., Hrycaj, N., Lavoipierre, C., & Potasiak, M, 2016) (*Figure 38*).

The strong emergence of Monot as an artistic and entertainment hub was due to the presence of USJ and to the fact that the central district was still under reconstruction (Merabet, 2014). However, the physical upgrading of Monot Street in 2003 initiated the progressive gentrification of the Yesouieh sector, pricing out the newly established businesses from the area. Thus, the creative scene moved away, and the gentrification process allowed the emergence of high-end gated developments.

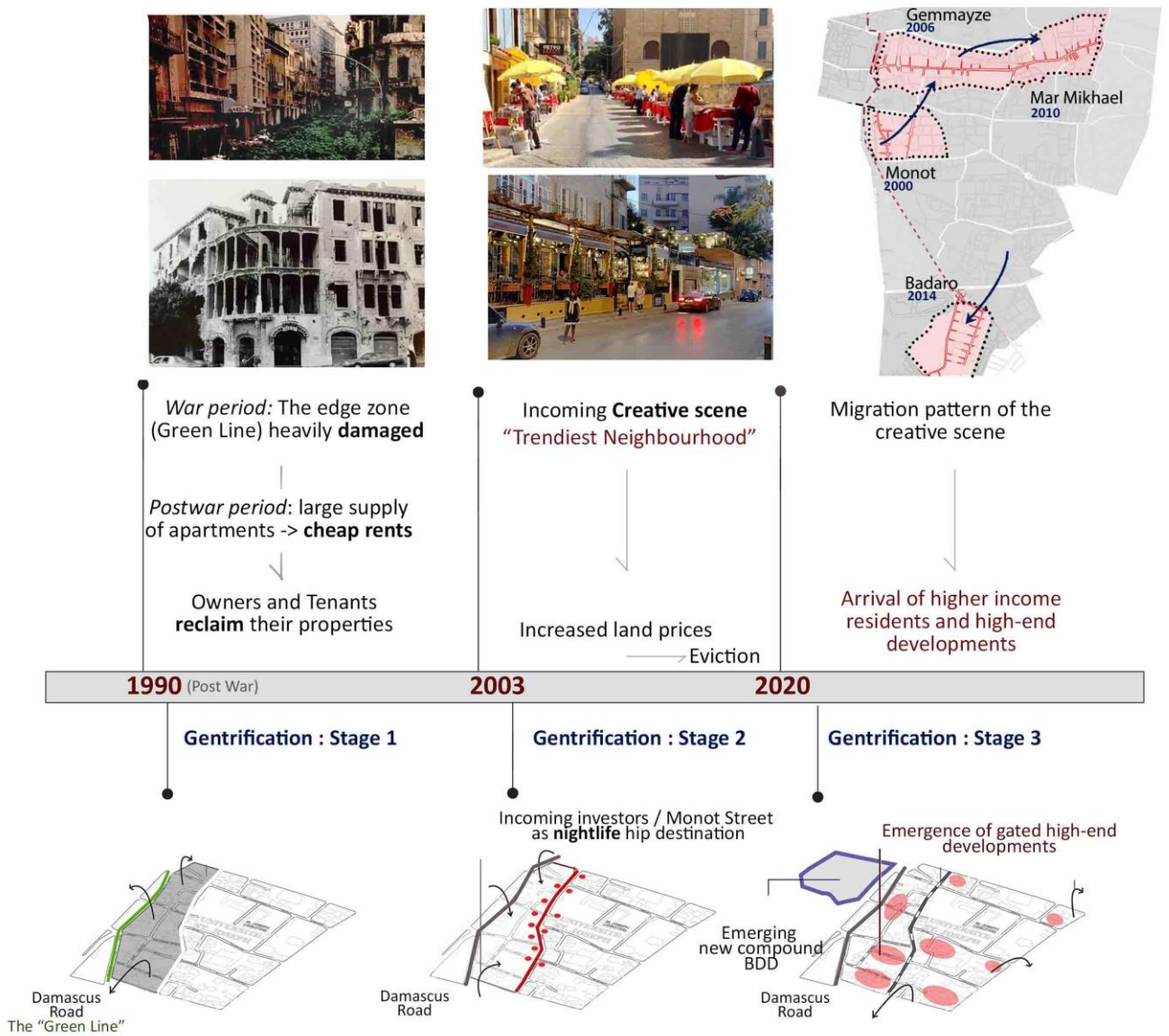


Figure 38. 1990-2020: Gentrification, regeneration, and the emergence of hipster neighborhoods

The Western border zone, encompassing the Bachoura sector, underwent a similar process of gentrification with the emergence of BDD, a private real estate development complex⁸ aimed at converting the area into an innovative high-tech hub⁹ (Krijnen, 2010) (*Figure 39*). The area also witnessed war-period destruction and post-war regeneration with the destruction and replacement of its period buildings by medium to high rise residential infills and large-scale projects, which further gentrified the area.

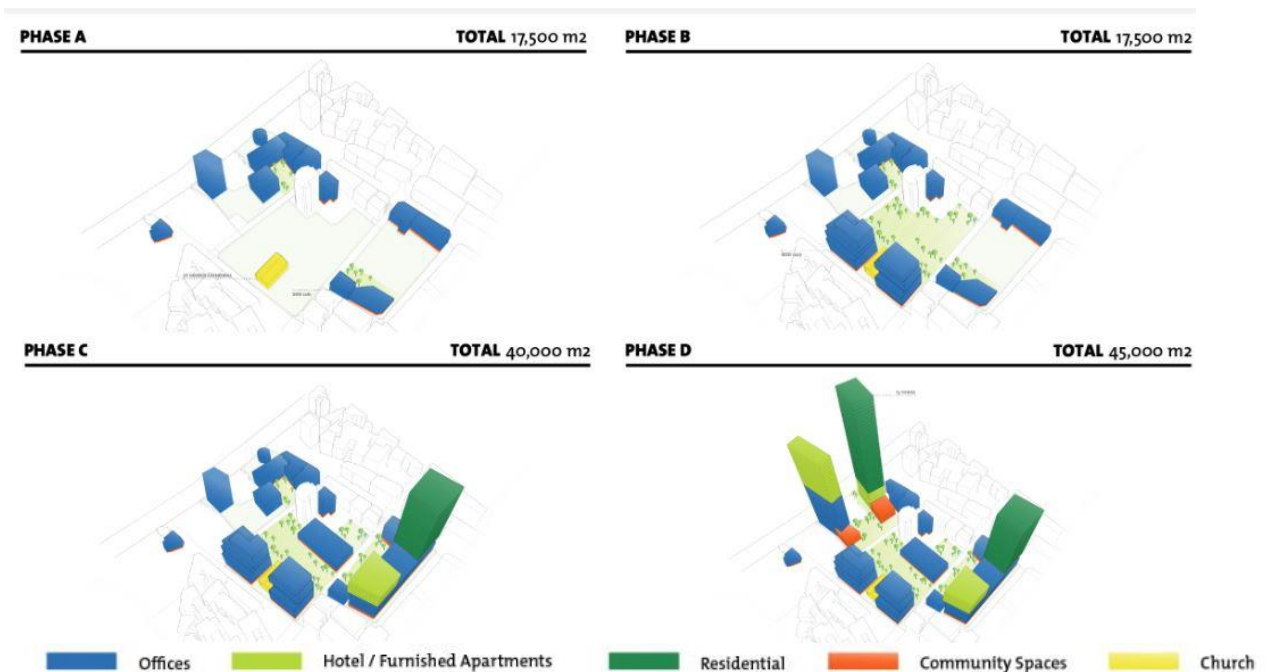


Figure 39. The phasing of BDD (Source: <https://beirutdigitaldistrict.com/our-story>)

⁸ It includes office and retail space priced competitively compared to nearby areas.

⁹ State and non-state actors have seen the significant role of emerging creative industries as a way to transfer knowledge economy from real estate into highly innovative areas for the young people to stay.

C. Character and connectivity appraisal

Montgomery (1998) defines place identity with reference to ‘activity’, ‘meaning’, and ‘physical form’ (*Figure 40*). In the context of this study, ‘activity’ will be approached in terms of the diversity of functional concentrations that confer to streets their distinctive character; ‘meaning’ in terms of urban legibility, i.e, Lynch’s perceptual elements (landmarks, paths, edges, districts, and nodes); and physical setting in terms of street patterns, buildings, open space, and landscape.

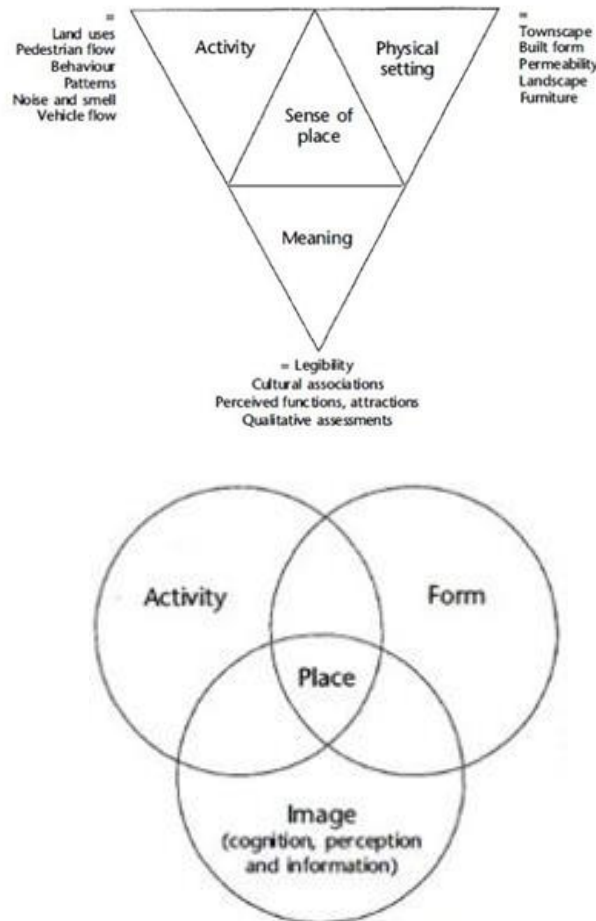


Figure 40. The components of a place’s identity (Source: Montgomery,1998)

1. Activities and street character

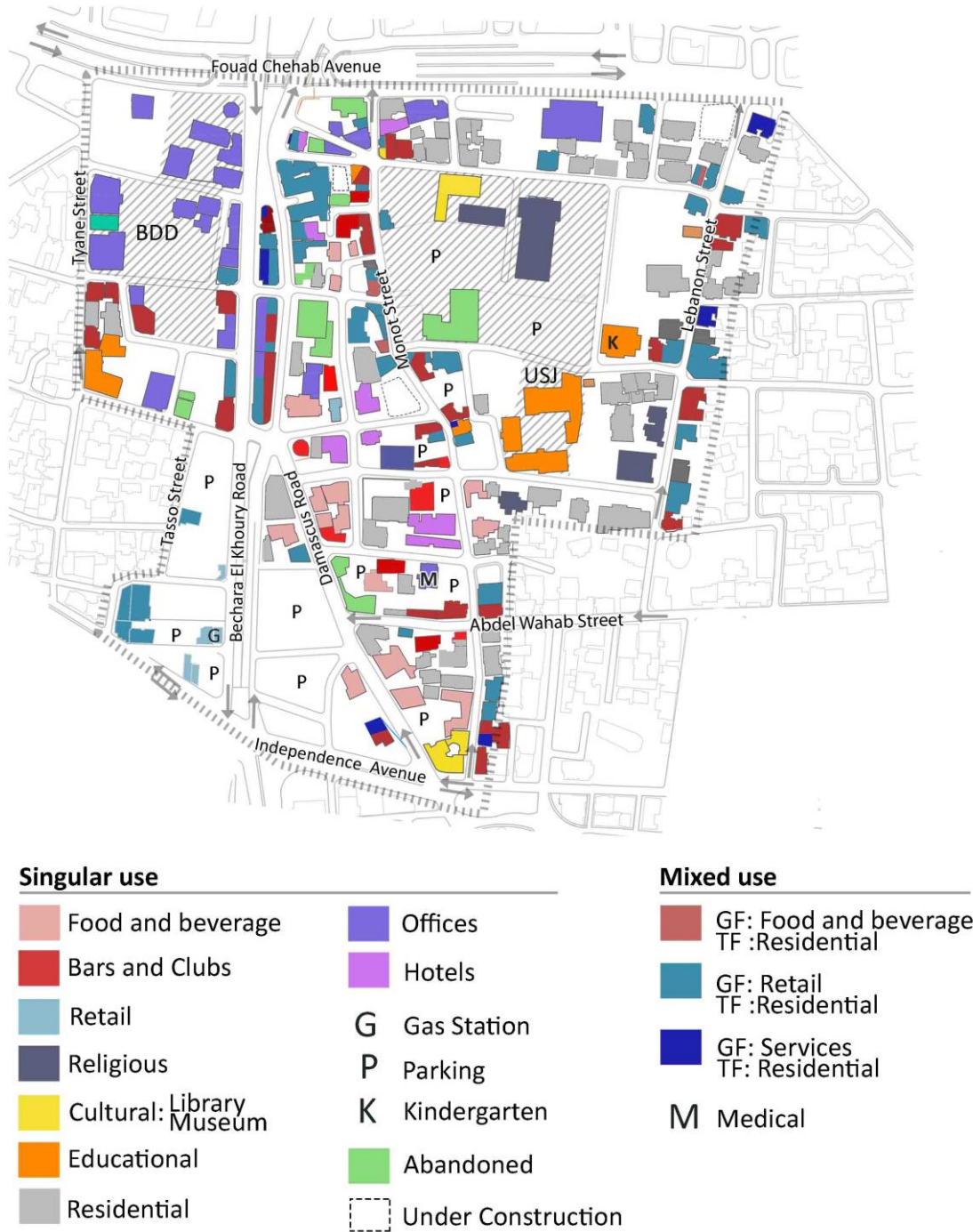


Figure 41. Land-use map

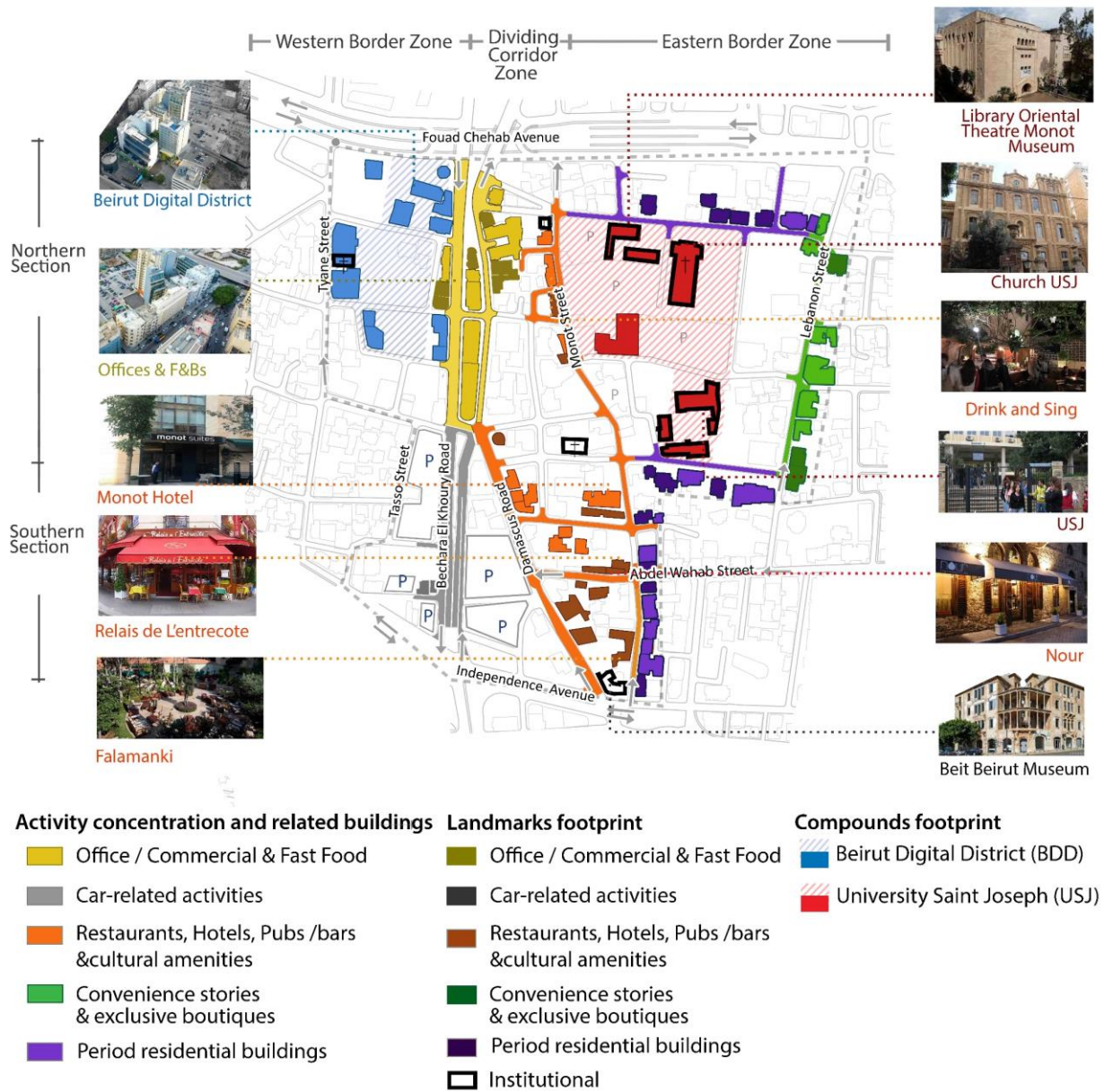


Figure 42. Street character and activity concentrations (Source: Author,2020)

The Eastern border zone is known for its vibrant Monot and Abd el Wahab streets a high concentration of restaurants, pubs, hotels, cafes, boutiques, and campus-related services. The sector character is dominated by the historic USJ campus and colonial architecture buildings conferring to its streets their distinctive character (St. Joseph street, upper Monot street, Lebanon street). The area also includes cultural landmarks, like the Beit Beirut Museum, the Prehistorical Museum, the municipal public Assabil Library, the National Higher Conservatory of Music, the Oriental Library, and the Monot Theatre. Moreover, retail, services, and restaurants are active during the day, and at night, bars and restaurants become crowded with millennials and middle-aged populations (*Figure 41 & 42 & 43*).

The Western border zone study area (Bachoura sector) is dominated by the BDD compound with an internal concentration of amenities and services dedicated to the users of the office building complex. Its frontage on Bechara El-Khoury Street is clearly delineated by a continuous row of office buildings with street-level internet shops, co-working spaces, coffee shops, and office furniture showrooms (*Figure 41 & 42*).

The Dividing Corridor zone consists of a narrow-elongated block between Bechara el Khoury and Damascus roads, occupied by 1950s and 1960s office buildings with small coffee and retail shops on the ground floor. The upper floors are distributed between private sector offices and public institutional offices, such as the Ministry of Finance, the Litani River administration, BDD offices, and the Arab Federation of Exchanges (*Figure 41 & 42*).



Figure 43. Abdel Wahab Street during the day and at night

(Source: Author & <https://ghostaroundtheglobe.com/ultimate-5-day-lebanon-itinerary/>)

2. Legibility and cognitive structure

Legibility revolves around the five key cognitive elements of the city defined by Lynch as districts, nodes, paths, edges, and landmarks.

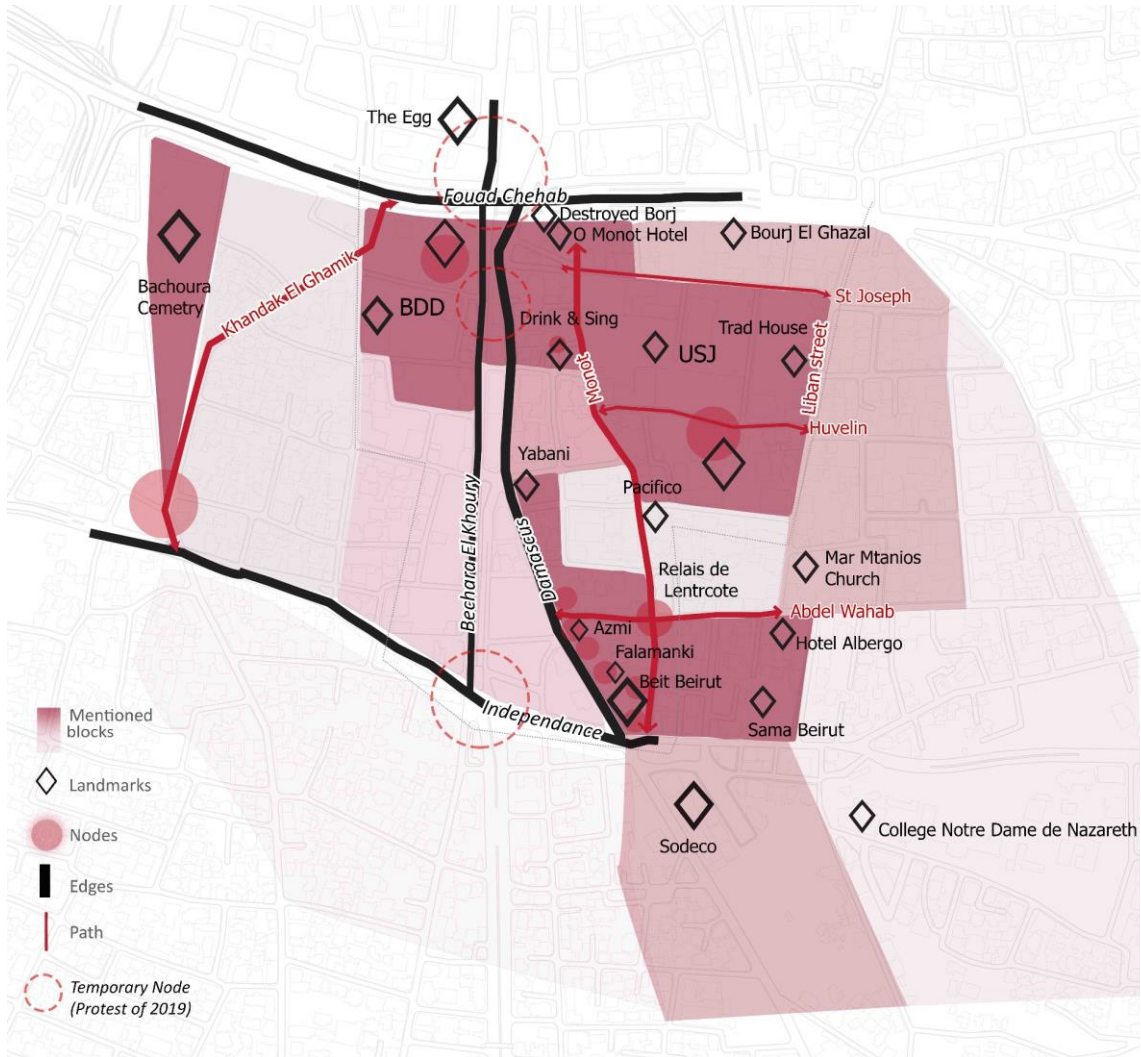


Figure 44. Perceptual illustration based on cognitive mapping (Source: Author,2019)

The 'image' of the study area (*Figure 44*) is mainly structured by the East-West and North-South through-traffic corridors, which are proved to be clear infrastructural breaks (edges).

The Eastern border zone is referred to as the 'Monot area', associating the name of the street to its district. Monot, as well as Abdel Wahab and Huvelin streets, constitute the primary structuring paths in the area, due to the linear concentration of restaurants and cultural landmarks along them. Yet, the whole area presents no gathering points, while the USJ campus is qualified by its student population both as a 'node' of activity and prominent campus through its historic buildings.

The Western border zone is associated mainly with the BDD compound, perceived as a 'sub-district' on its own (*Figure 45*). Another defining feature is the Bachoura cemetery and Khandak al Ghamik street delineating a clear edge on the Western impact zone.

The mental maps prove that both BDD and USJ act as a gated introverted compound in their respective zones.

USJ STUDENT

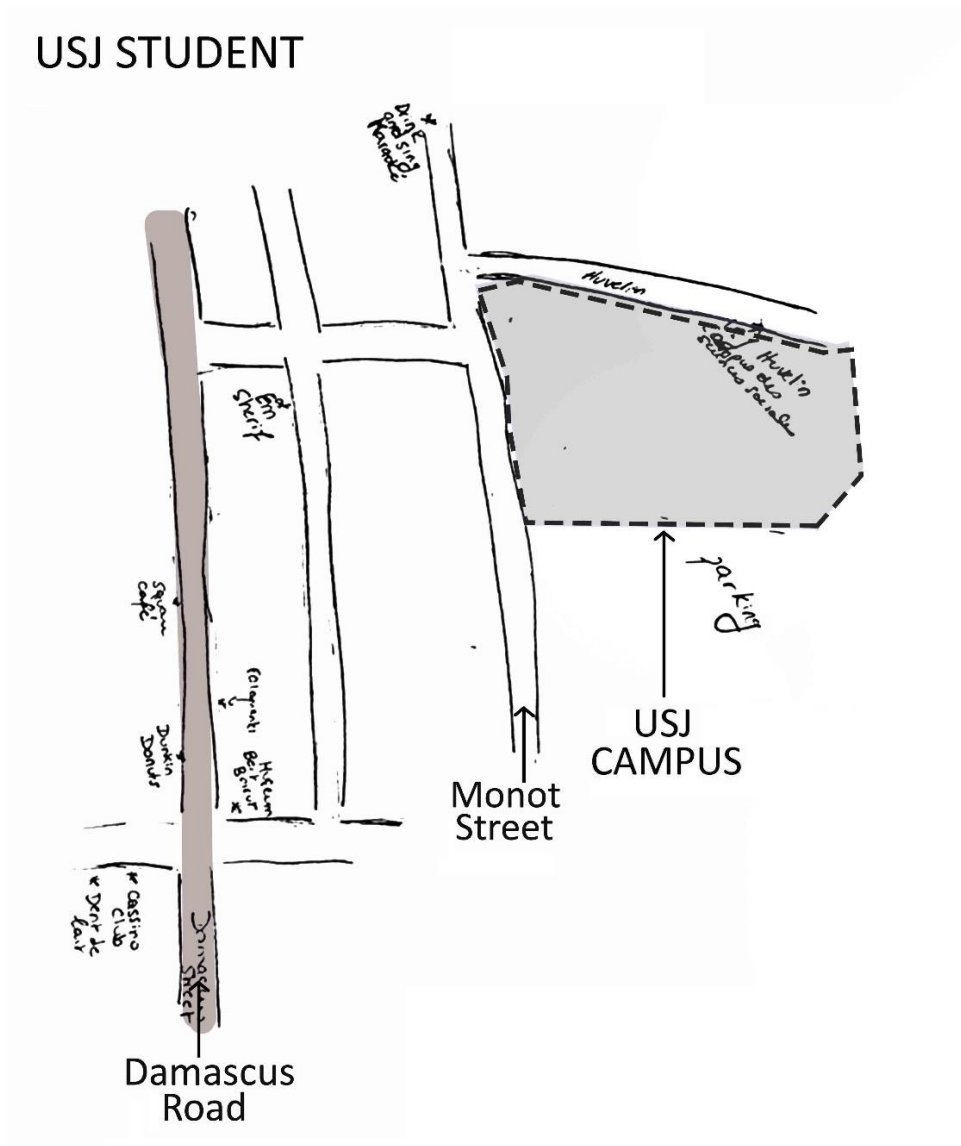
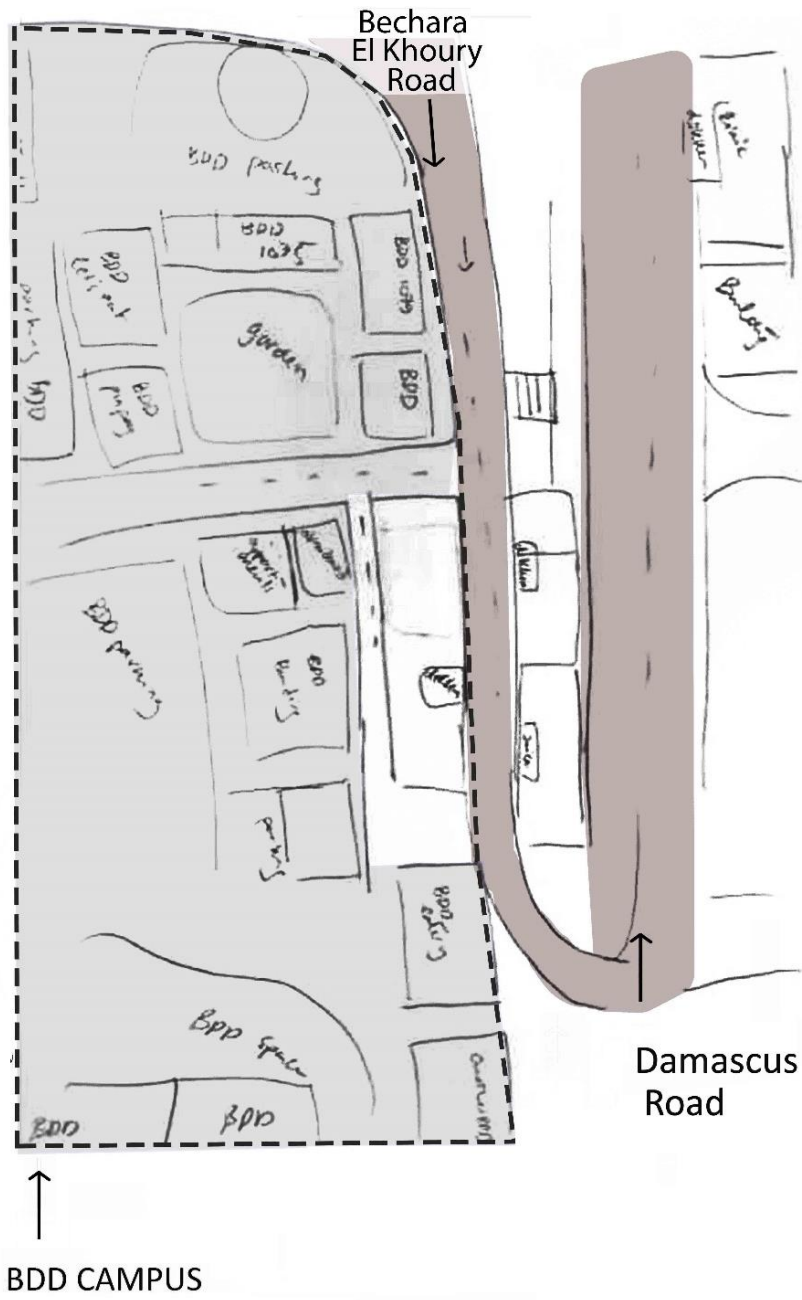


Figure 45. Mental Maps (Source: Author,2019)

BDD STUDENT



3. Physical setting

Both Western and Eastern zones are distinguished by their heritage-rich fabric¹⁰ (*Figure 46*), which invites leisure and hospitality businesses, thus making it a key asset for the economic development of the area. However, most of the heritage buildings are at risk of demolition, as many landowners allow the depletion of those structures to sell the land to developers (*Figure 47*). This led to a discontinuity within the urban fabric, with newly built structures going up to 30 floors¹¹ (Ashkar,2018) (*Figure 48*).

¹⁰ Teams, such as ASPAD and Khatib and Alami have established a list of heritage buildings that should be classified as part of the Lebanese heritage.

¹¹ Additionally, the Petro Trad road plan that was supposed to be constructed 70 years ago, permits the adoption of a non-existing gabarit which follows a wide road typology.

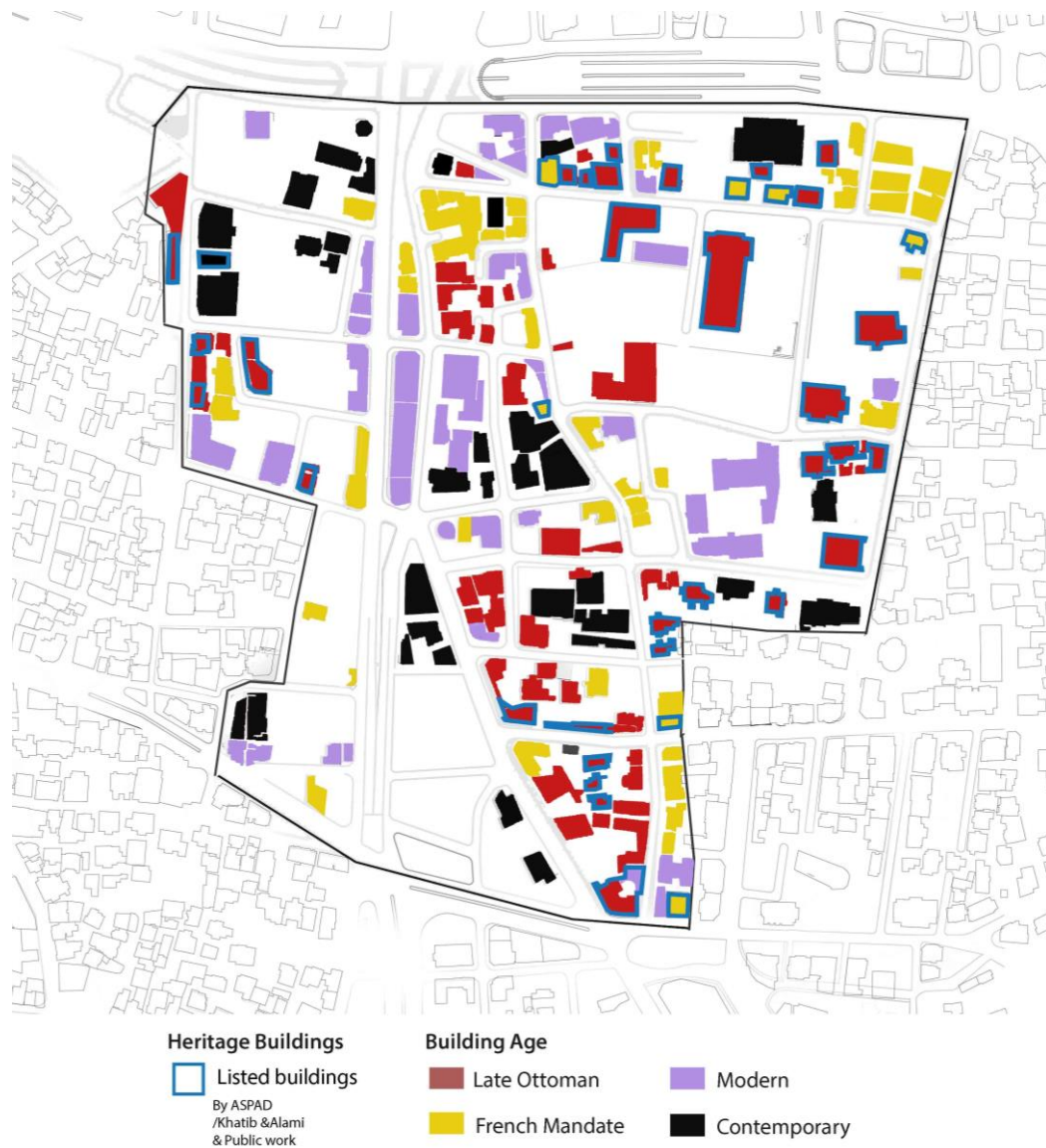


Figure 46. Buildings of architectural and historical significance and buildings age
(Source: Author,2020)

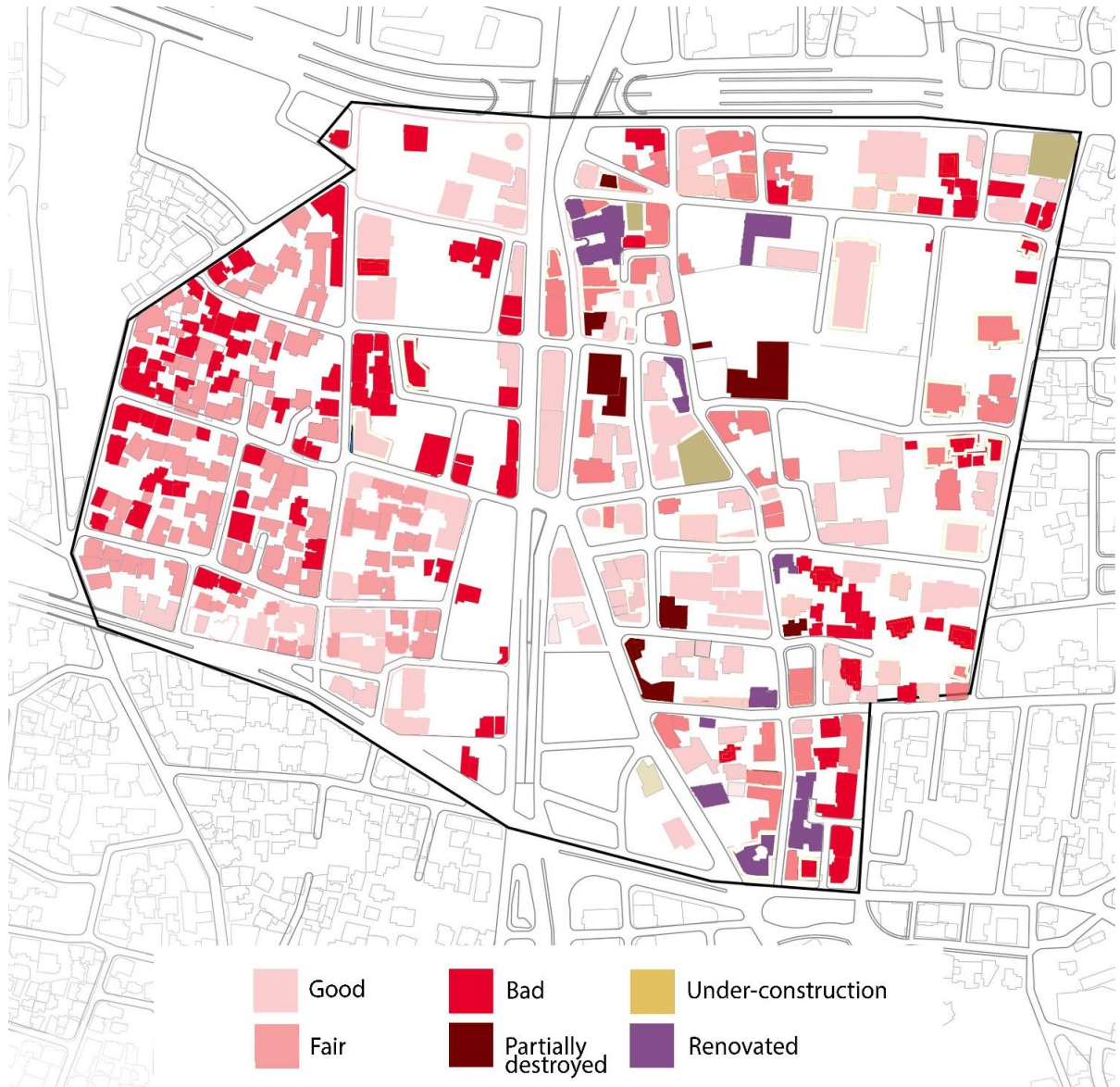


Figure 47. Building conditions

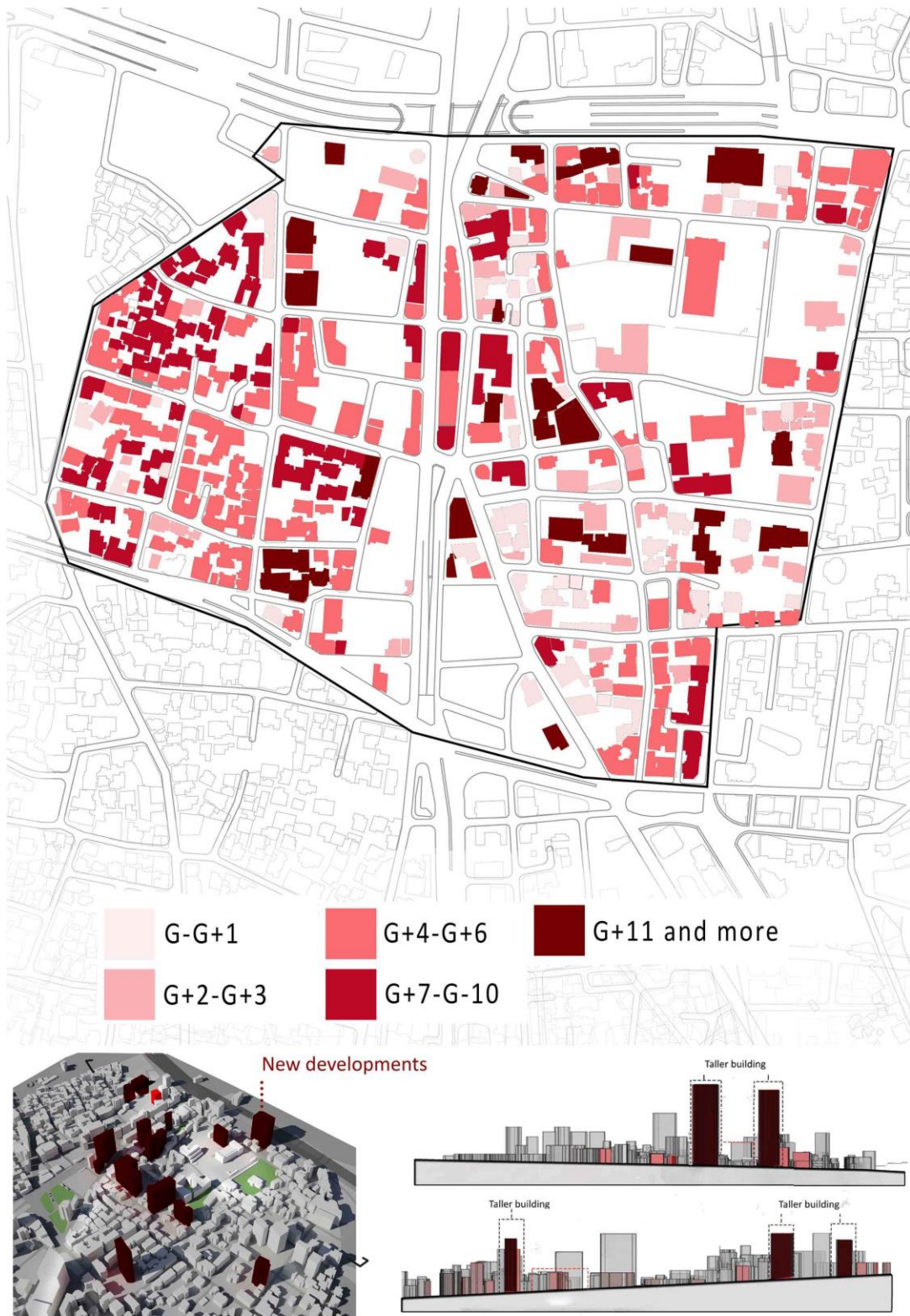


Figure 48. Height map & Diagrams showing discontinuity in the urban fabric
 (Source: Author ,2019)

4. Permeability and mobility

The following section will assess the mobility scheme and connectivity of the site.

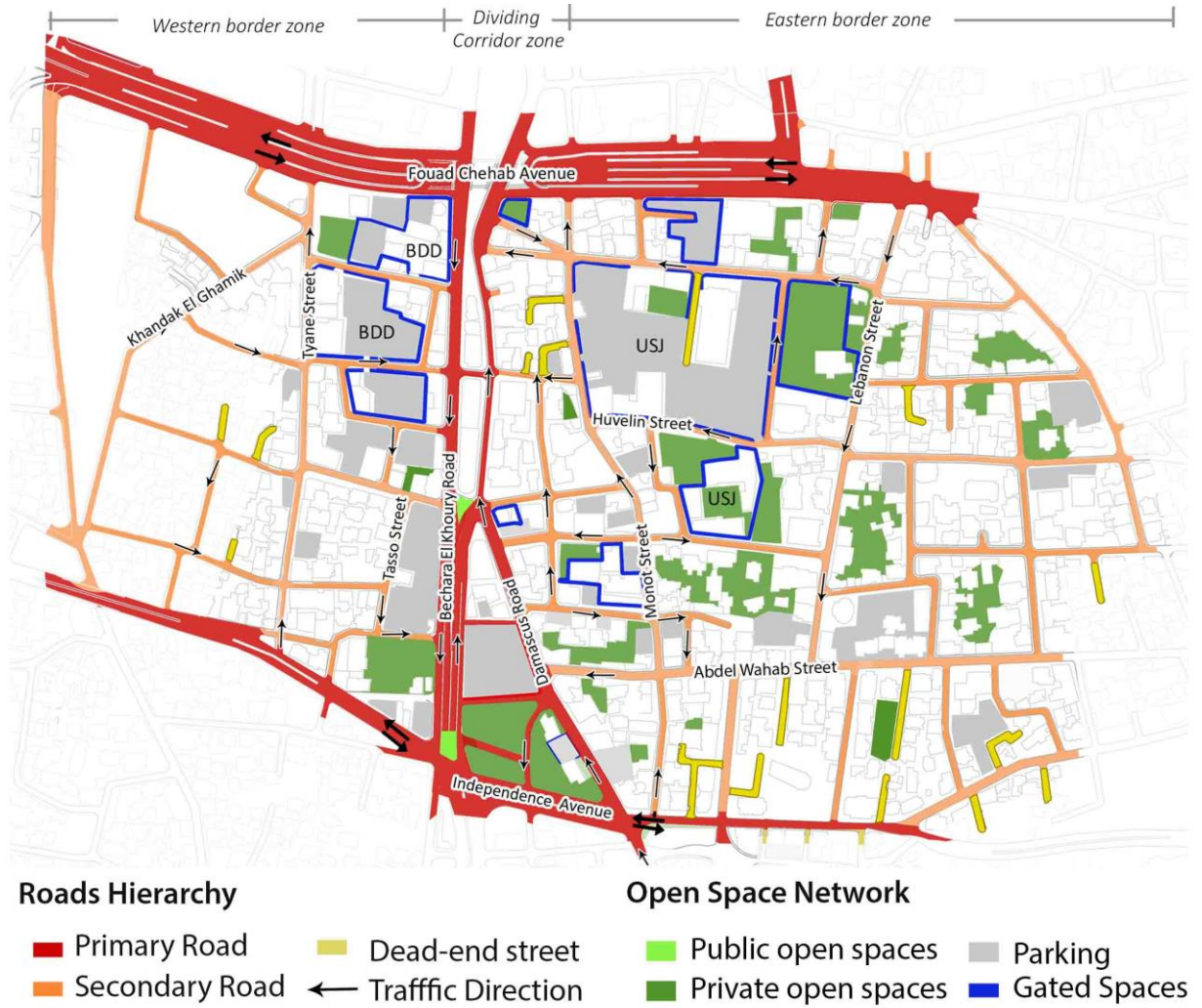


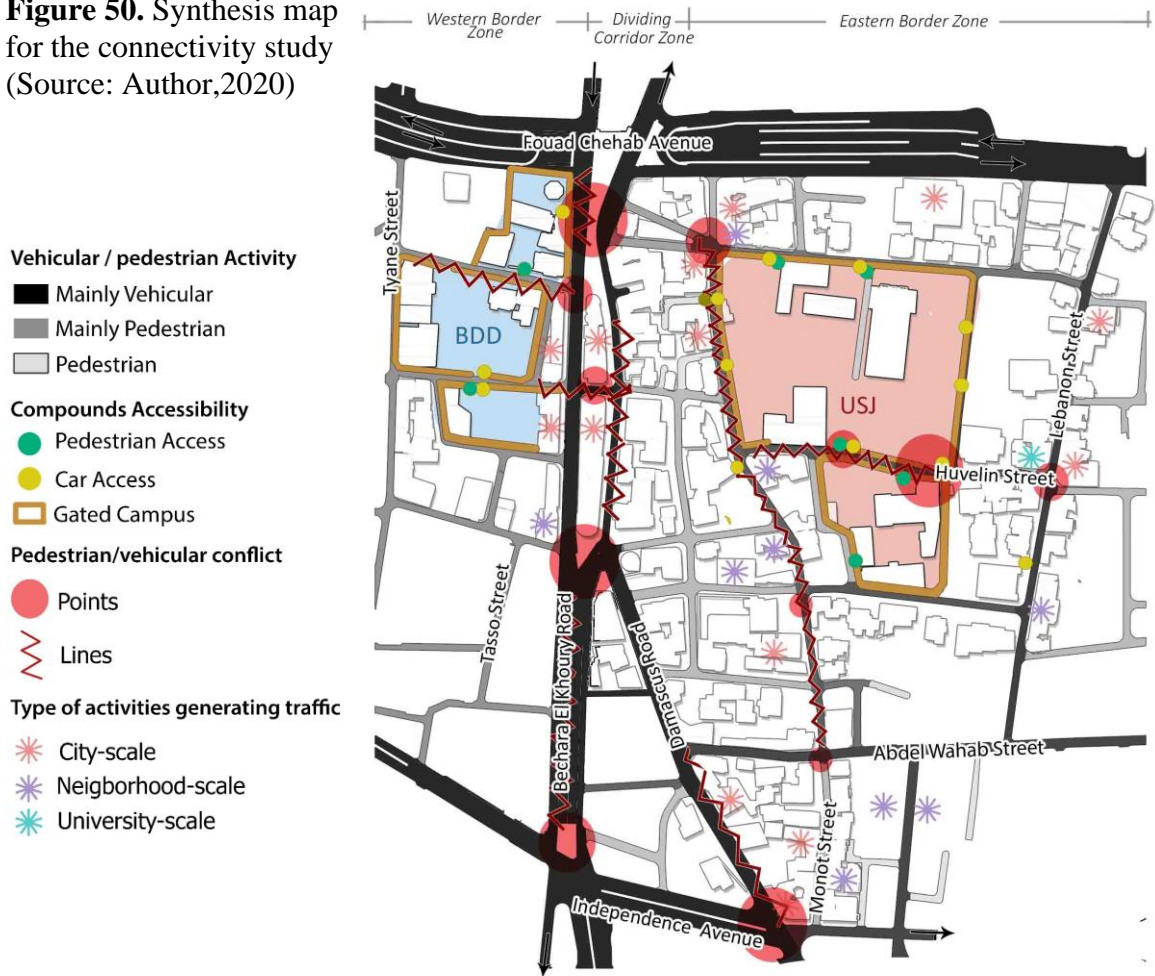
Figure 49. Mobility and open space network

The study area is structured around the East-West axes of Fouad Chehab and Independence avenues; and the North-South axes of Damascus and Bechara El Khoury roads. These through-traffic arteries are perceived as sharp spatial divides that separate and discourage crossing between the two border zones, which surfaces conflicts along their borders and intersection points between pedestrian and vehicular activities. The neighborhood street network consists of an inner distribution and access roads serving both pedestrian and vehicular activity with no differentiation between the two in terms of sidewalk width, signage, and street furniture except for Monot street. Moreover, both USJ & BDD are high generators of car traffic, while not providing proper parking facilities for employees and students, leading to traffic congestion within neighborhoods.

The network of open spaces mainly consists of residual/privately owned spaces, with an absence of public spaces in both the Eastern and Western border zones. Large patches of open space exist within the compounds of USJ and BDD, while the rest consists of non-accessible / inner block leftover spaces, which are the result of “perimeter” residential building development.

Along the highway frontages of the three zones, vast unbuilt lands are being temporarily used as parking (*Figure 49*).

Figure 50. Synthesis map for the connectivity study (Source: Author,2020)



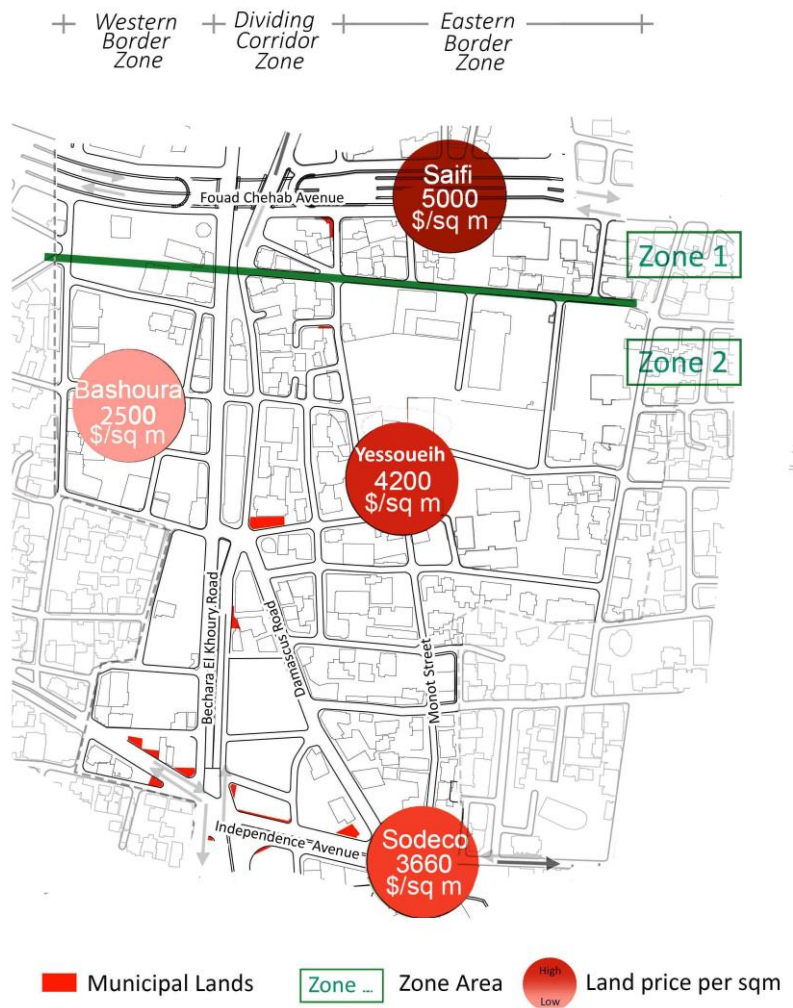
The main generators of traffic mostly revolve around city-related activities and local businesses. In addition to that, little are the campus-related activities along USJ and BDD, which proves that they are not acting as urban catalysts in their respective zones. Also, their perimeters are to be treated to allow for their integration in the fabric (*Figure 50*).

D. Susceptibility to change

The area's susceptibility to change is mainly dictated by the high exploitation ratios permitted under the existing zoning and the escalating land prices due to the peripheral locations of the area under study.

Figure 51. Zoning and land prices

Zone	Setback (road centerline)	BCR (Building Coverage Ratio)	FAR (Floor Area Ratio)	Minimum lot area
1	4.5	100%	6	100 m ²
2	4.5	GF 100% TF 70%	5	100 m ²



Both the Eastern and Western sectors share the same zoning regulations (Zone 2) except for the edge along the Fouad Chehab Avenue (Zone 1). Zone 1 has a BCR (Building Coverage Ratio) of 100% for both the ground and top floors with an FAR (Floor-Area-Ratio) of 6. Zone 2 (Bachoura and Yesoueih) has a BCR of 70% for top floors and 100 % for ground-floor with an FAR. of 5 (*Figure 51*). Both Zone 1 and 2 regulations do not provide a specific height limit for buildings, which indicates that constructions follow the “gabarit” line that permits high-rise developments. Moreover, the code allows for lot expropriation and allotment, where a group of lots can merge into one singular large lot, allowing for even higher building exploitation ratios. Hence, the code does not consider the historic skyline and frontages characteristic of peri-center neighborhoods.

The price of the sqm is 2500\$ in Bachoura, and 4200\$ in Yesouieh (*Figure 51*); as a result, both areas are partially at risk, as many developers can pool several lots and create larger exploitable lands for high profits. Hence, buildings with large plots that do not make up the full exploitable FAR are at risk of demolition (*Figure 52*).

Figure 52. Total land exploitation & The vulnerability of the urban fabric



Areas in red are typified by abandoned lots, vacant lots, parking lots, old houses that do not take up the full FAR. Thus, they are susceptible to change, unlike protected buildings, religious buildings, institutional buildings, and new developments where the latter are described as singular developments that act as a starting point for further expansion and changing of the urban fabric for both neighborhoods (*Figure 53*).

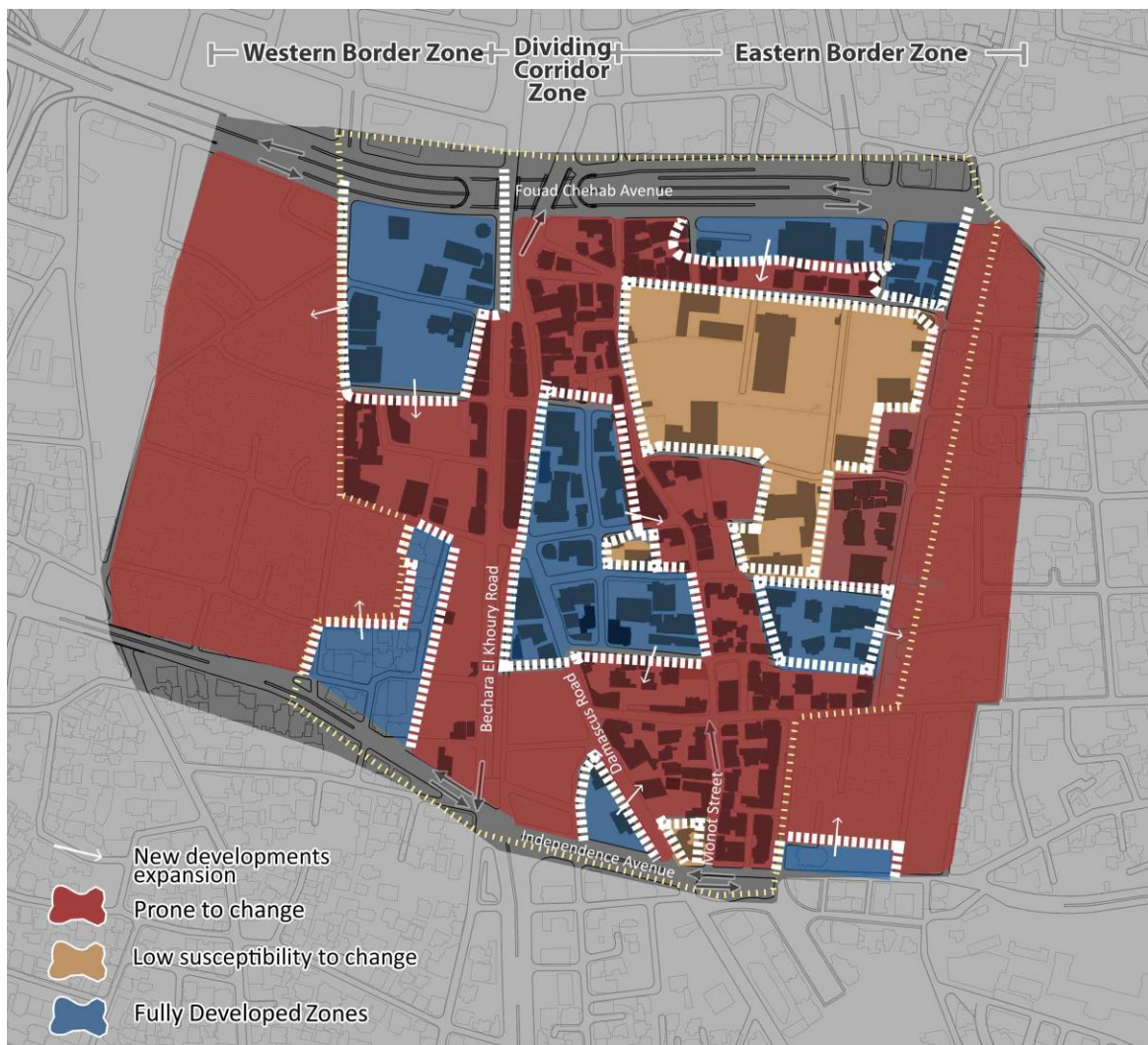


Figure 53. Susceptibility to change map (Author, 2019)

E. Stakeholder analysis

The table (*Figure 54*) is an analysis of the stakeholder's interests and position regarding the current and future transformation of the site, which identifies the views and aspirations of local inhabitants, businesses, and authorities, as well as the interests of investors and developers. This assessment demonstrates the importance of BDD, USJ, private developers, and landowners, as main actors in the development of the area.



	Stakeholders	Interest/position	Power
Public Sector	Municipality	Ensure equity, safety, sanitation, access to housing, jobs, transportation.	Power within the law
	Ministry of Public Works	Responsible for infrastructural projects	Power within the law
Private Sector	BDD	Growing Footprint of the startup scene which attracts clients eventually.	Development Power, Political Connections. Large Scale Gentrifiers.
	Owners of large leftover plots	Maintain/improve value of the land and its surroundings	Powerful role in the design of the neighborhood
Educational institution	Saint Joseph University	Enabling environment for students Maintain the religious character of the area	Major land-owners and have powerful say amongst residents of the Achrafieh
Residents and users	Residents	Maintain/improve neighborhood livability without disturbance	Limited power
	Local Business Owners	Maintain/improve consumer demand, usually in the form of increasing foot/car traffic	Limited Power over people, Significant power over use of the space.
	 Students of USJ	Affordable housing, better mobility, variety of services.	Limited-Transient
	 Employees of BDD	Affordable housing, better mobility, variety of services.	Limited

Figure 54. Stakeholders analysis

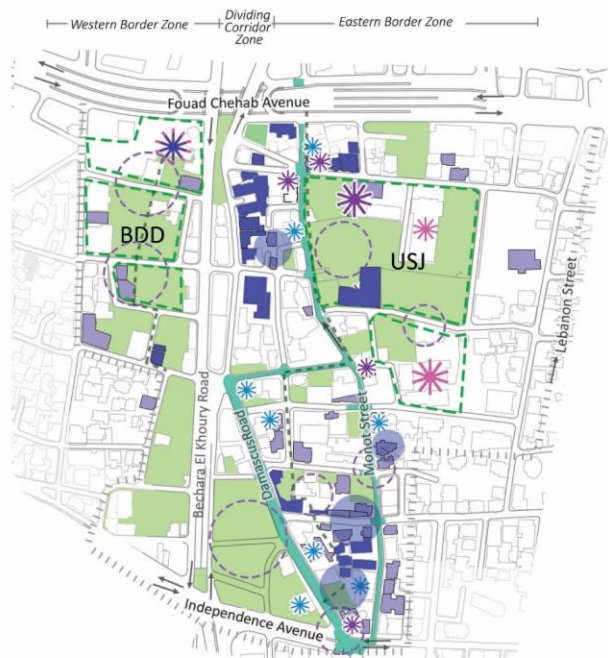
F. SWOT analysis

The SWOT analysis allows the evaluation of the site's strengths, weaknesses, opportunities, and threats (*Figure 55*).

Strength & Opportunities: Both the Western and Eastern border zone include cultural, institutional, and historical landmarks that forge the site's identity and, therefore, constitute a significant part in preserving the area's image. Moreover, there is a potential in re-using those vacant and historical structures as part of a narrative, which can be translated as a promenade linking those buildings through trails and open spaces. Those spaces would become places of encounter and exchange. Finally, the area is known for its active restaurants and pubs, which can become a useful facet as they attract a variety of users.

Weakness & Threat: The main weakness is the spatial and social divide along the dividing corridor zone. The primary threat is the process of gentrification that has been ongoing for 15 years on the Eastern border zone, with the mushrooming of tall buildings that disrupt the area's skyline. Moreover, on the Western border zone, BDD compound forges a new identity within Bachoura, creating a barrier within the area, and putting it at risk of gentrification.

Figure 55. SWOT Analysis
 (Source: Author,2020)

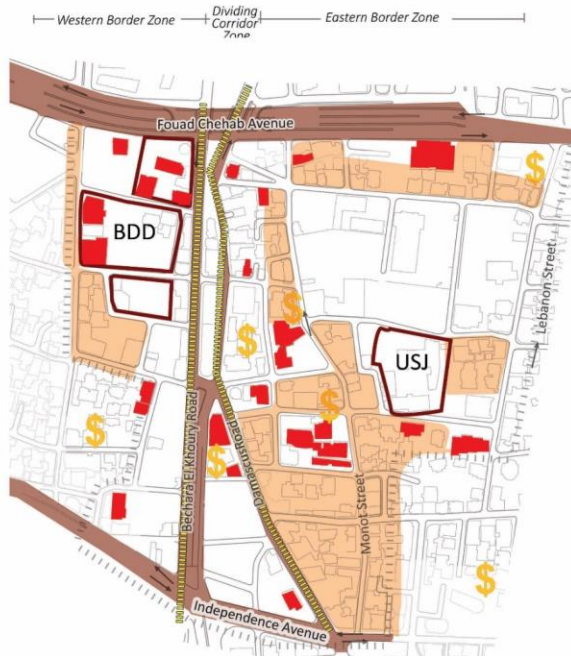


Strength

- Cultural Landmarks
- Economic Landmarks
- Institutional Landmarks
- Heritage Building
- Cluster of Restaurant and pubs
- Nodes

Opportunities

- Open spaces
- Vacant buildings
- Promenade
- Potential Nodes
- Porous Gates
- Heritage/cultural trail



Weakness

- Spatial break
- Gated compound
- Social divide(the ex and new Green Line)

Threat

- Blocks susceptible to change
- New Developments
- Gentrified blocks

CHAPTER IV

THE RESILIENT INTERFACE – REVISED URBAN PLANNING AND DESIGN STRATEGY

This chapter gives a detailed account of the revised urban design scheme proposed in the Planning workshop of the Fall 2019 semester at the American University of Beirut, a more extensive literature review, and analysis of case studies.

The general aim of the proposed masterplan is to promote the interfacing border-zones of Yesouieh and Bachoura as vibrant inner-city districts with a wide range of working, living, educational, and cultural opportunities, catering to both the transient student and resident populations. USJ and BDD will act as catalysts for urban development and contribute to transforming the Green Line edge into a resilient interface.

The study has been conducted at two levels. The first level examines the various aspects of development, such as character definition, density development, preferred land-use, mobility scheme, streetscape design, links and trails, and open space network. It also enhances the provisions and level of details of the masterplan and planning regulations, at the street, block, and infill level. The second level of study focuses on two main sub-zones, which includes active frontages requirements, specific vehicular and pedestrian accesses, required parking ratios, building heights, setbacks, and other massing controls. Additionally, the plans shape the relationship of parcels and their developments to surrounding streets and public open spaces while creating a distinct identity within each sector.

The scheme builds on the existing market dynamics and zoning codes to formulate a set of resilient urban design strategies along the four tracks of identity, connectivity, open and public spaces, and private development. Tools for each track were extracted from international and local case studies, as well as from the planning and design workshop of fall 2019, at AUB (*Table 2*).

All illustrations in this chapter were developed by the author (except where otherwise mentioned).

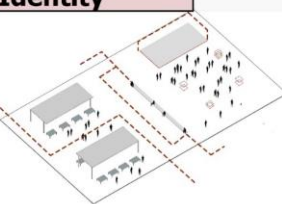
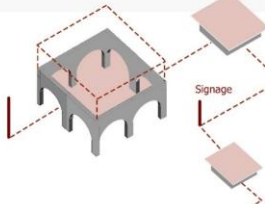
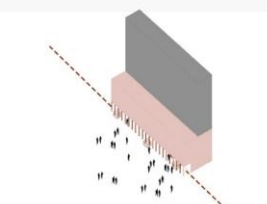
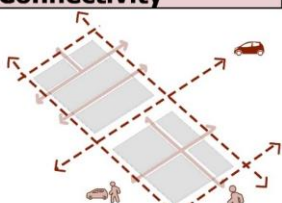
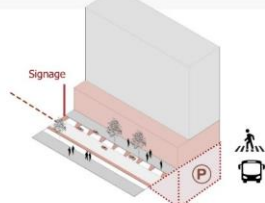
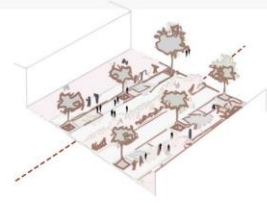
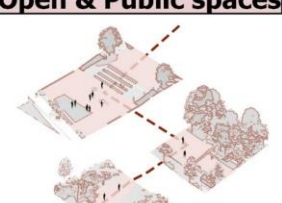

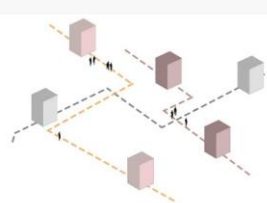
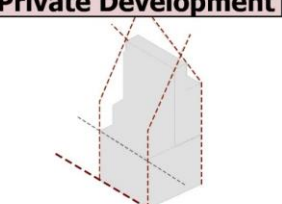
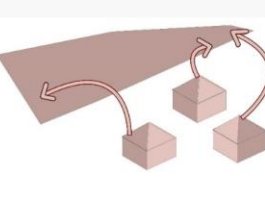
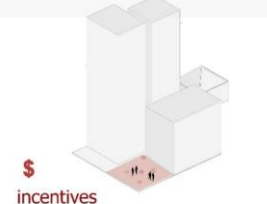
<p>Identity</p>  <p>Variety of activities Art fair, Market, festival venue</p>	 <p>Museum memorial +trails and signage</p>	 <p>Colonnade : Active frontage</p>
<p>Connectivity</p>  <p>Super-Blocks</p>	 <p>Soft mobility Pedestrian friendly</p>	 <p>Pedestrian Passageway: Right-of-way</p>
<p>Open & Public spaces</p>  <p>Pocket gardens</p>	 <p>Elevated Park Pedestrian Bridge</p>	 <p>Distinct Urban Furniture for multiple trails</p>
<p>Private Development</p>  <p>Design development Street wall control, Built to line height limit and gabarit law /Uses</p>	 <p>Preserve heritage Transfer of development rights</p>	 <p>Temporary-re-use & Expropriation incentives</p>

Table 2.Summary of the urban design strategies implemented in this study (Source: Author ,2020)

A. Proposed Master Plan

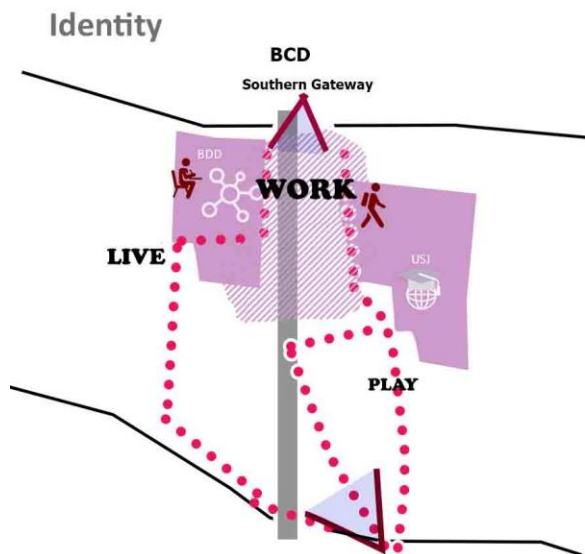


Figure 56. Masterplan (Source: Author,2020)

The context appraisal on identity, connectivity, and private development has allowed for the formulation of a masterplan (*Figure 56*).

The area surrounding the Green Line has suffered devastating destruction during the civil war. Thus, the site offers a unique historical fabric, which will play an essential part in the enhancement and success of the future development scheme.

B. Goals and objectives



Goals

Reinforce the identity of the area as an interface between the university campus (USJ) and the digital district (BDD).

Emphasize the role of the area as the southern gateway to the Beirut's central district.

Improve the area's sense of place and enrich the identity through design pertaining to local spatial practices.

OBJECTIVES

Landuse and Activities

- Provide a mix of uses across the zone, to provide an active and varied street environment, especially on the Ground level.

Live: Create new housing affordable for students and workers.

Work: Create a sense of community through knowledge-based enterprises and commercial activities.

Play: Enhance the cultural and artistic leisure scene which create landscapes of encounter and exchange.

Perceptual and Physical setting

- Create "character zones" along the corridor through a comprehensive landscape, streetscape and signage program.

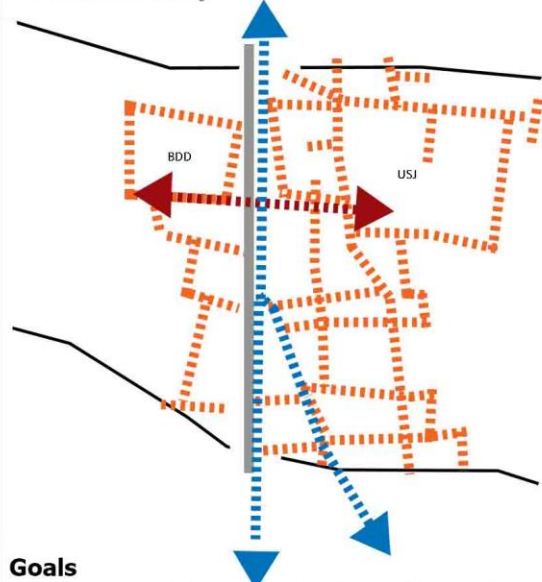
- Create "visual gateways" at principal entry points to emphasize the concept of the southern gateway.

- Establish a vocabulary of elements that integrate with the urban context and enhance its legibility, through urban furniture both rigid and flexible.

- Create a cohesive and distinct urban fabric.

- Preserve and reconstruct significant heritage buildings as important landmarks in the urban setting.

Connectivity



Goals

Enhance the vehicular and pedestrian mobility and permeability between the two border zones of Yesouieh and Bachoura

Implement a soft mobility scheme within the entire area.

Enhance North-South connectivity between the center, peri-center, and adjoining inner-city districts.

Strengthen the East-West connection between BDD and USJ.

OBJECTIVES

Mobility

- Achieve a clearly expressed and visibly consistent hierarchy of the roadway network.

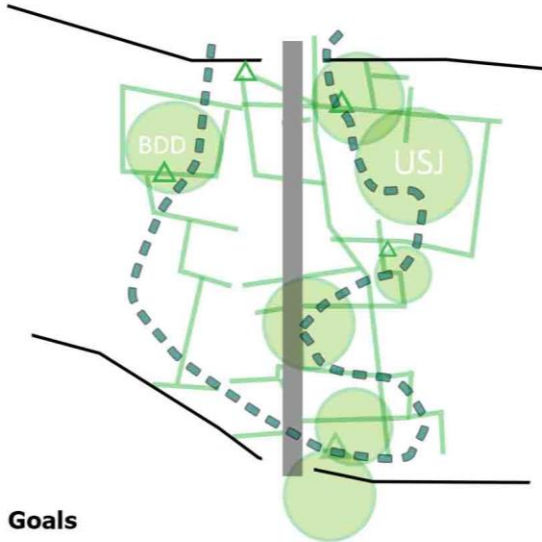
- Create public transport along the green line for users in the vicinity as well as to decrease traffic.

- Create complete streets with bike lanes, pedestrian walkways, and car lanes.

- Create smooth transitions from high speed roads to local streets to increase safety and minimize traffic.

- Improve the connection between both zones with the implementation of pedestrian bridges.

Open and Public spaces



Goals

Upgrade the quality of streets and open spaces identity



Create a network of open space, which emphasizes physical and functional linkages between neighborhoods



Create public accessible open space, as well as outdoor activity areas in conjunction with private development.



OBJECTIVES

Open Spaces

- Design for open spaces on the street level, especially along active frontages
- Temporarily re-use of empty private lands into public spaces.
- Inject programs and workshops between BDD and USJ for students, entrepreneurs, residents, and the general creative class.
- Create multiple trails, with each a distinct urban element.

Private development



Goals

Maintain and enhance current economic activity of small retail



Mitigate the strategy expansion of new development



Introduce economic ventures related to USJ



Inject new economic activity which capitalizes on temporal activities



Create a cohesive and distinct urban fabric



OBJECTIVES

- Regulate the building envelop to ensure a distinctive visual identity formed by a cohesive height and mass development study, by applying street wall controls, mandatory setbacks or built to line regulations.
- Catalyze a social life across the area, with the formation of street volumes which regulates the bases or lower floors of buildings that front the streets.
- Coordinate among block, parcel and building developments, to create zones with architectural cohesion and identity, with the use of tools such as, TDR, expropriation, protected heritage (un-constructible lands ,listed protected building and waqf lands).
- Integrate private lands into public domain, for temporary use

C. Urban Design Strategy

1. Definition of character zones

The proposed master plan builds on the context appraisal developed in the previous chapter and defines five zones, each with its unifying character in reference to its location, predominant land-use, morphology, mobility network, and architectural character (Figure 57).

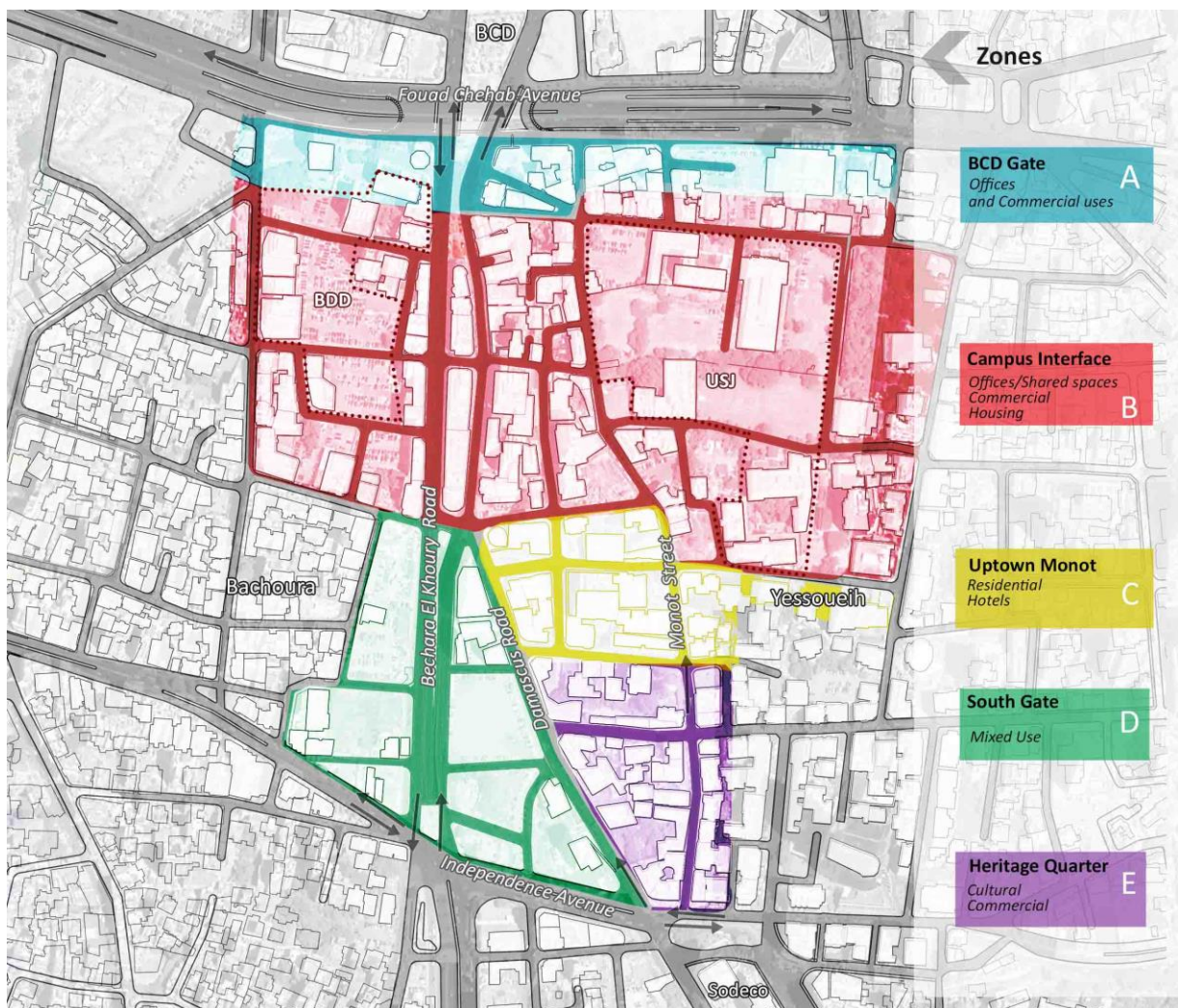


Figure 57.Character zone definition (Source: Author,2020)

The BCD Gate Sector: This sector encompasses the fronting blocks along Fouad Chehab Avenue and frames the Southern entrance to the city center. The sector is planned as a high-density, high-rise office buildings area due to its strategic location as a direct extension of the central business district.

The Campus Interface Sector: This sector encompasses the BDD and USJ precincts and highlights the Live-Work-Play environment promoting the establishment of creative enterprises with a vibrant streetscape and offices/shared spaces and housing on the top floors.

The Uptown Monot Sector: This sector encompasses a concentration of high-rise buildings adjoining USJ campus. The sector is planned along the lines of its current development as a high-density mixed residential, hotel, and night entertainment

The South Gate Sector: This sector is situated on a prime junction between Sodeco and Monot. It is planned as a high-rise mixed-use area with the provision of pedestrian and open plazas on the street level for events such as markets, fairs, and festivals.

The Conservation Area: This area includes a concentration of colonial-period residential buildings around Beit-Beirut museum and cultural center. It is planned as a heritage sector with strict conservation and renovation guidelines.

2. Development strategy

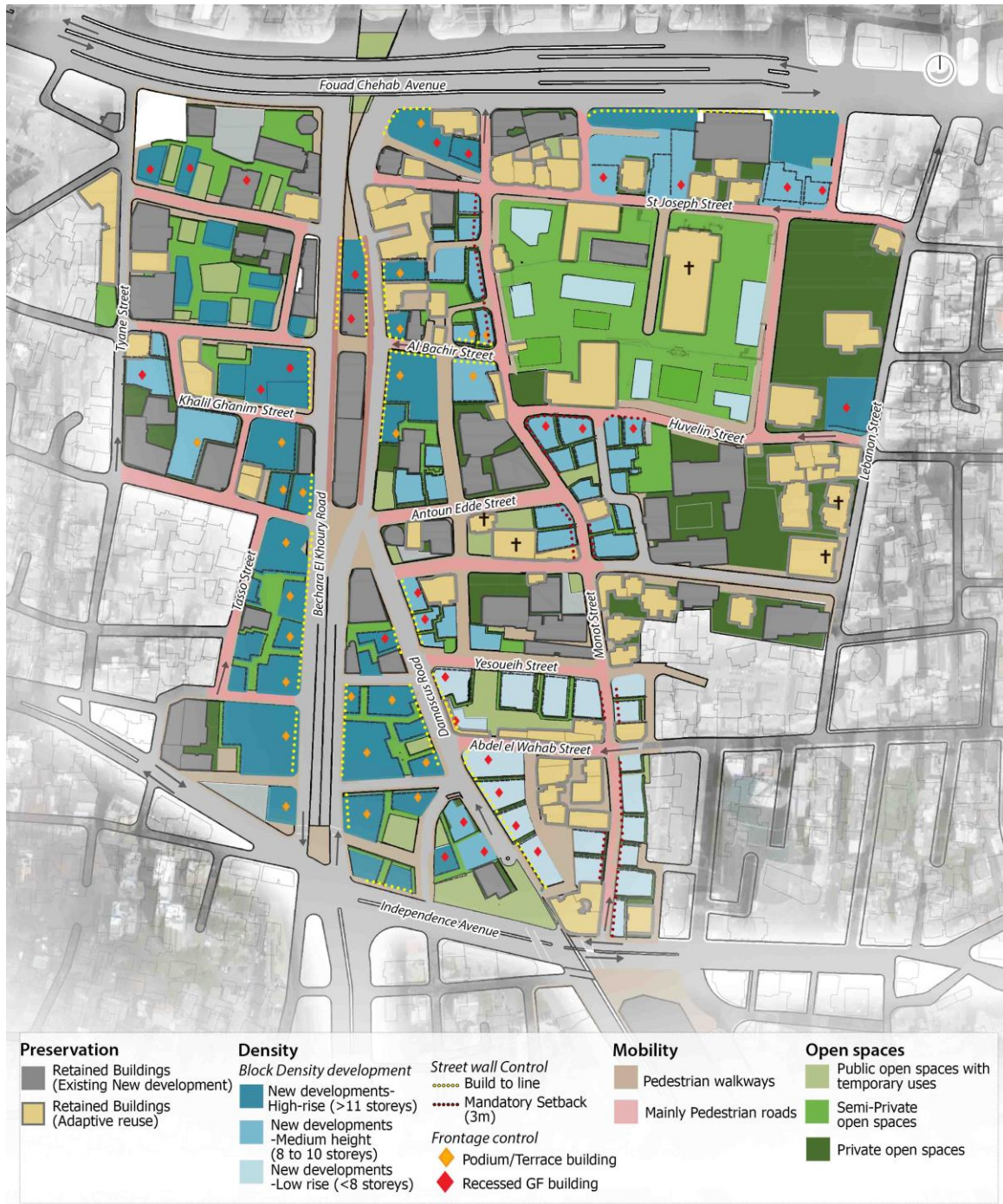


Figure 58. Preliminary masterplan (Source: Author, 2020)

a. The conservation Scheme

The first layer is divided into two, the retained existing buildings and preserved buildings of historical value. The former involves buildings that are newly constructed, which have fully exploited the allowable FAR, while the latter consists of preserved buildings of cultural and historical significance, which include period buildings and institutional buildings. Prominent among them are churches (Saint Sauveur, Saint Joseph, and Greek Orthodox churches), cultural landmarks (the Oriental Library, the Public library, the Prehistory museum, the Monot Theatre, the Saint Joseph printing press, the Beit Beirut museum, the National Higher Conservatory of Music), and groups of historic buildings forming a historical townscape (*Figure 58*).

b. The density Scheme

For infill development, the masterplan specifies the massing requirements, taking into consideration their relation to streets and existing historical structures. The main purpose is to ensure that the massing and building alignment are coordinated to form street character. Equally, the plan allows the allocation of retail shops and other cultural and entertainment activities along the ground floor levels to promote an active street life (*Figure 58*).

The overall approach to the distribution of densities and height restrictions over the different character zones specified were determined according to the following rationale:

- The high-density areas (exceeding 11 storeys) are located on the edge of both the Western and Eastern border zones, spatially and physically defining the main circulation arteries and, thus, working as “markers” or gateways to BCD.

- The medium-density areas (8 to 10 storeys) occur along the inner streets, such as the upper section of Monot, Saint Joseph, Antoun Edde, and Huvelin streets.
- The low-density areas (less than 8 storeys) occur in the historical quarter, along Abdel el Wahab/Yesoueih streets and the lower section of Monot Street, while also being applied to the proposed massing of USJ campus.

Additionally, infill development envelopes are divided into four types of building typologies (*Figure 59*). Building typology A1/2 follow a recessed ground floor design, which requires buildings to setback at least 1.5 m away from the plot limit. This setback area effectively becomes part of the wider landscaped sidewalk, which becomes a long alley (colonnade) where pedestrians can stroll along an active frontage. Building typology B1/2 follow a podium terrace design, which requires having an open public terrace on the first and second levels. The plan requires that all plots located along Bechara el Khoury Road, Damascus Road, and Fouad Chehab Avenue, build along their respective property boundaries to align their frontage facades, while either following typology A1 or B1. As for the inner roads, they follow typology A2 and the indicated setback set in the zoning, except for Monot Street, which requires a mandatory setback of 3m. As for plots along Al Bachir Street, they follow typology B2, to create a clear axis between BDD and USJ. Finally, all typologies will have to follow the “gabarit” line from both the front and rear sides of the plot to determine the maximum height. However, it is not the case in the heritage quarter, and USJ proposed plans, where new height guidelines are proposed.

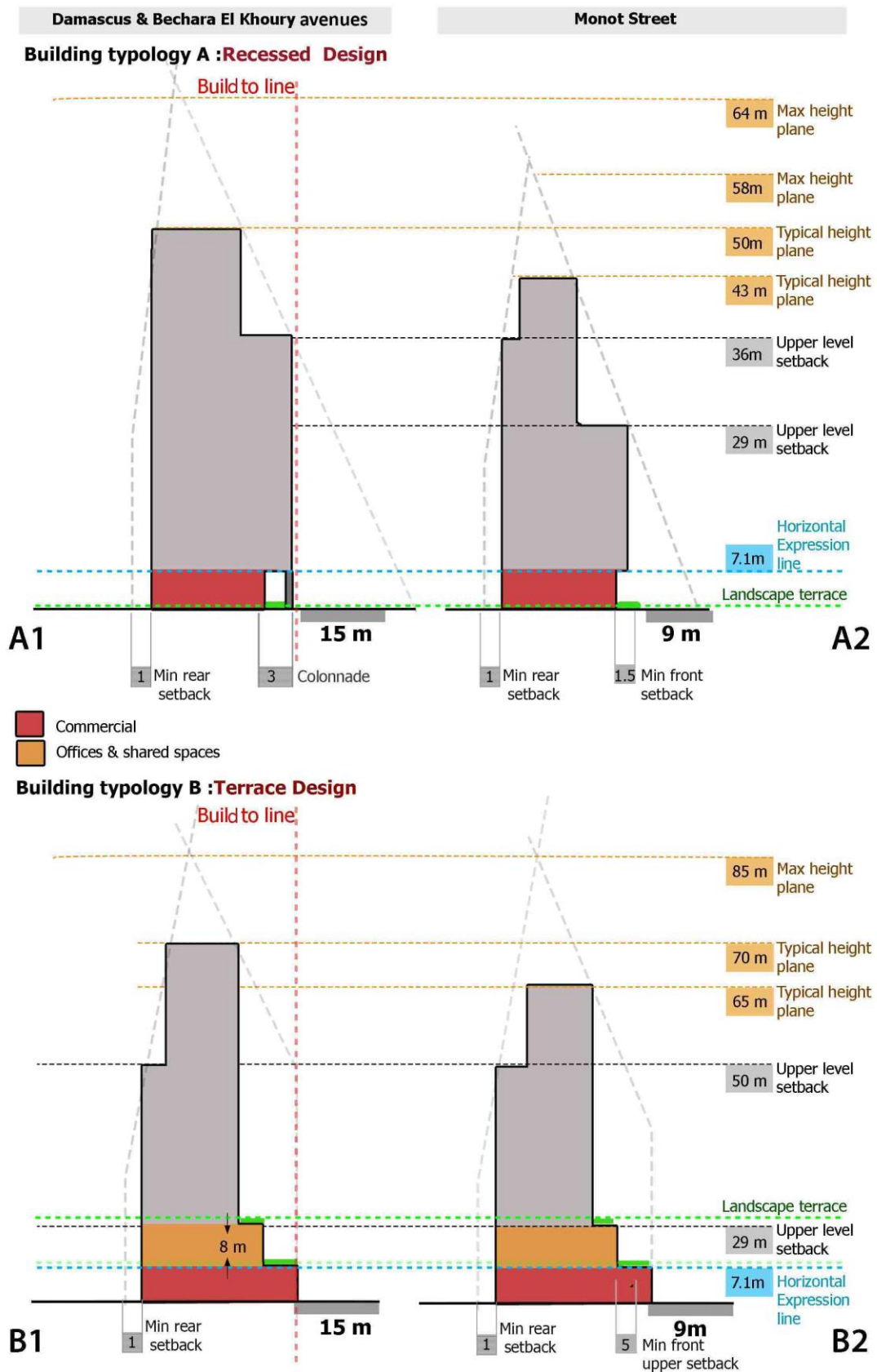


Figure 59. Street wall control and gabarit law (Source: Author,2020)

The urban density visualization scenarios

Existing development and massing

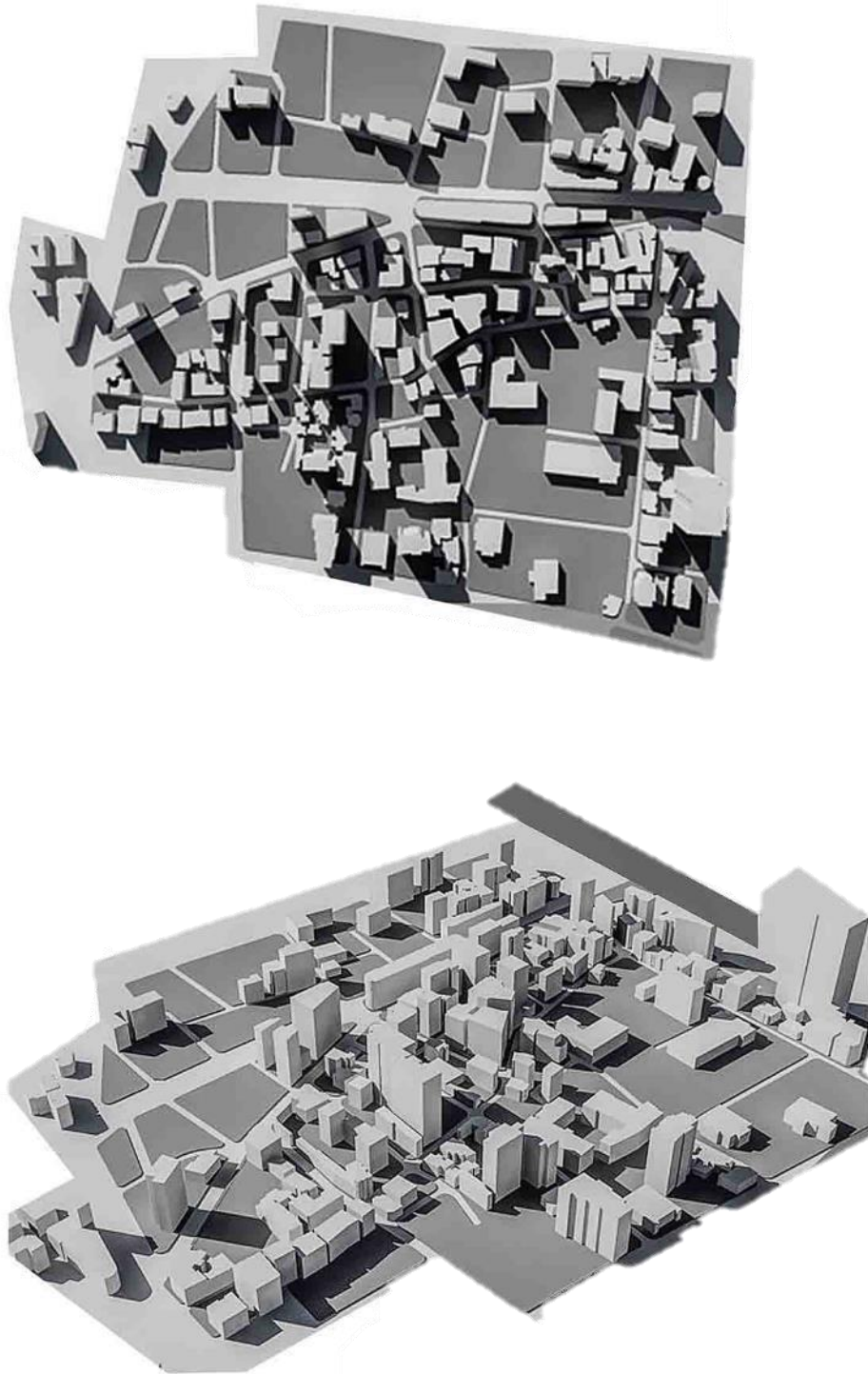
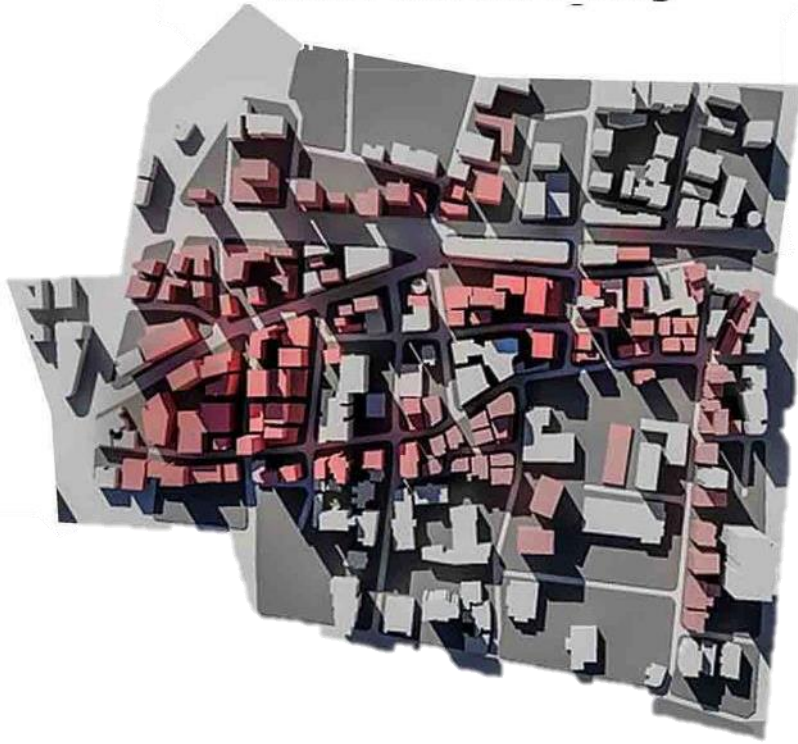


Figure 60. The current existing massing (Source: Author,2020)

Anticipated development and massing under current zoning



Highlighted red areas are critical spaces where intervention is needed

Figure 61. The anticipated massing under the current market and zoning
(Source: Author,2020)

Proposed development and massing

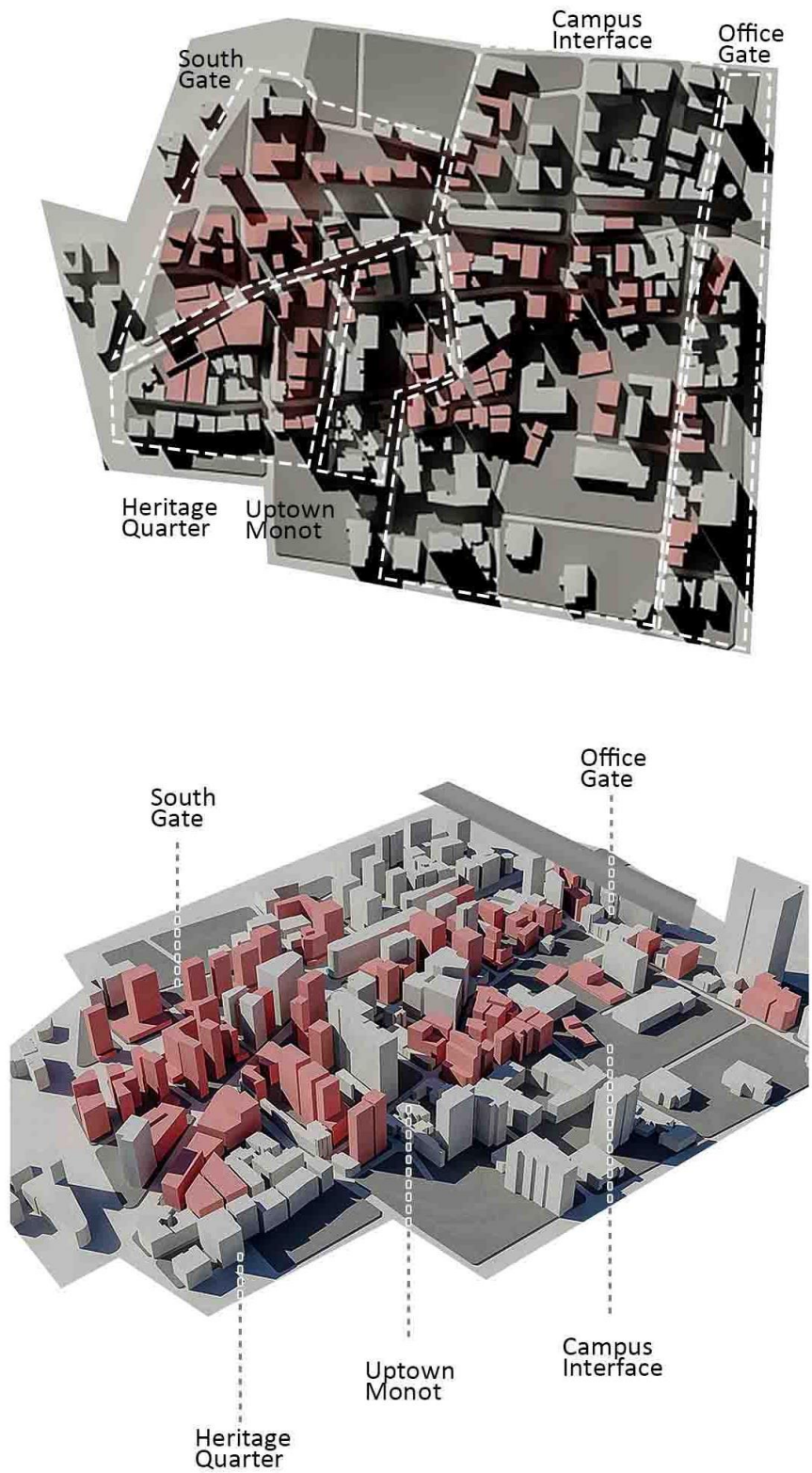


Figure 62. Proposed development and massing (Source: Author,2020)

The following diagrams show the three different urban density scenarios: the current existing massing, the anticipated massing if left to the market and zoning law, and the proposed massing, which follows the newly discussed guidelines (*Figure 60 & 61 & 62*). The existing zoning regulation allows buildings to reach up to 26 floors, which threatens the consistency of the fabric. The calculations allowed the creation of building envelopes, which promotes a consistent fabric. The new factors which contributed to the study were:

- The restriction of land pooling in the heritage quarter with a minimum lot size of 500 m² to encourage low-rise projects and quality old houses as non-constructible lands.
- The introduction of Transfer of development (TDR) right from a block to another within the same zone
- The implementation of building height restriction in specific zones.
- The adoption of the heritage preservation scheme by the ASPAD study (check chapIII).
- The imposed mandatory setbacks between buildings to create passageways.
- The implementation of podium terrace buildings (an obligatory setback on the upper floors of min 5m, which minimizes the over-shadowing effect of the new developments within the old urban fabric.
- And the implementation of buildings with recessed ground floors to create more space along active frontages.

3. Preferred land-use

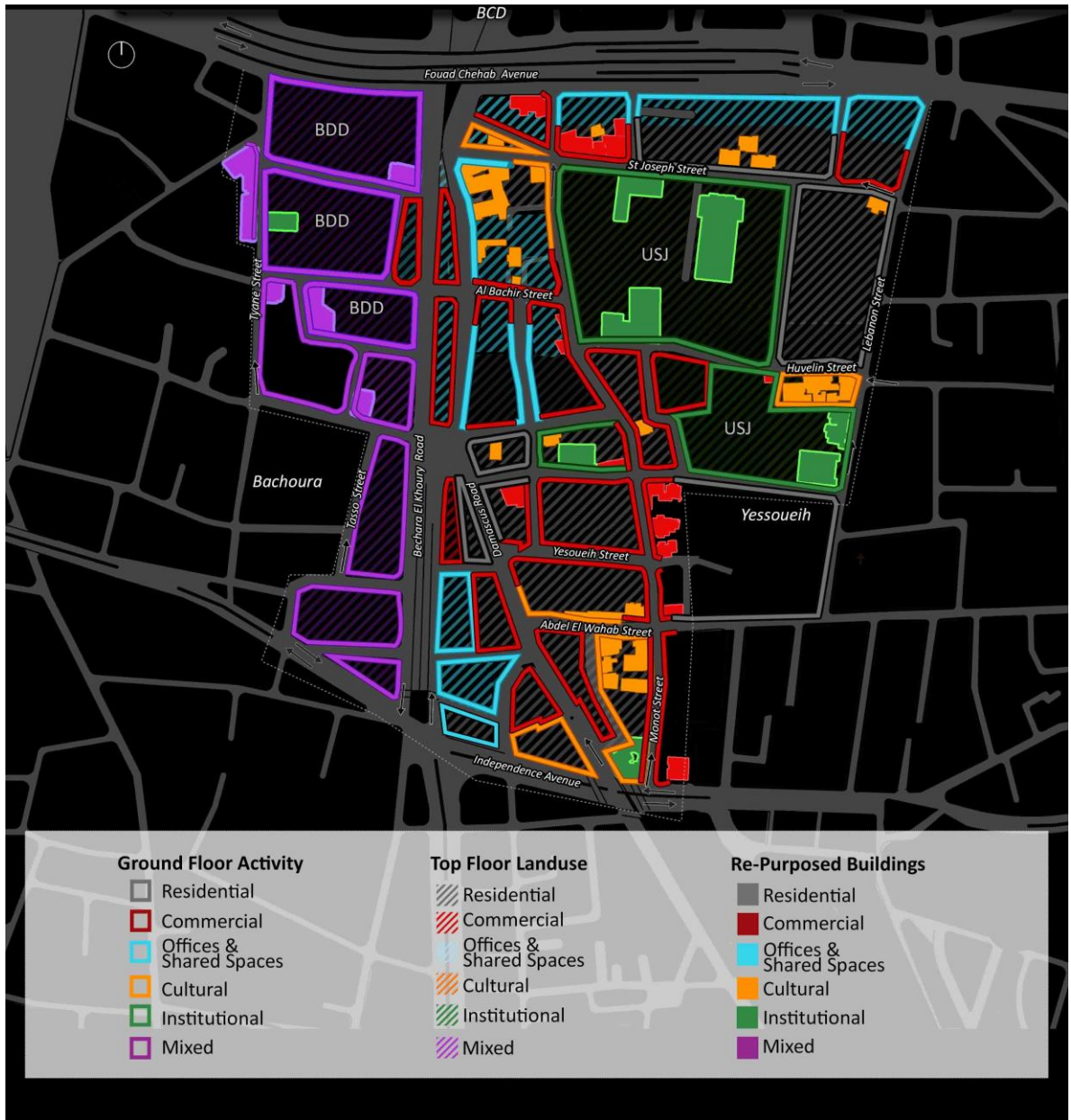


Figure 63. Preferred Land use (Source: Author,2020)

The masterplan accommodates a broad mix of uses, a result of both extensive studies on the dimensions of anticipated neoliberal expansion and the existing dynamics. Hence, it builds on the current strengths and further adds amenities, following the clustering of certain uses in defined districts (*Figure 63*). The five primary uses across these districts are the following:

- Residential communities

The area of Yesoueih and Bachoura is mainly residential, yet the expansion of BDD and USJ suggests the need to propose dorms and affordable housing for the transient population. Thus, those dormitories are to be located at the campus interface sector.

- Retail and commercial activities

Widespread demand for these activities will emerge from the transient population of USJ and BDD, as well as the residents of the area. They are mainly located along Monot, Al Bachir, and Yesoueih streets, as well as along Damascus and Bechara El Khoury roads and around both USJ and BDD compounds.

- Cultural activities (Recreational)

The masterplan aims to reactivate the pubs, museums, and other cultural assets for which the area was known-for. The re-use of old buildings will create a unified and complete scheme of activities for students, residents, and tourists. They are situated on Monot, Huvelin, and Saint Joseph streets, as

well as near Beit Beirut museum, which corresponds to the Campus Interface and Conservation Area sectors.

- Offices and shared spaces

The area is in proximity to Beirut Central District, a financial district where international and regional head offices, financial and stock companies are located (Solidere, 1997). Mirroring this type of use in the northern part along Fouad Chehab Avenue, which corresponds to the Office Gate sector, will create a link between Downtown and the peri-center. Additionally, the presence of BDD and USJ work as drivers for the expansion of such activities in both Bachoura and Achrafieh, along Bechara El Khoury and Damascus roads.

- Institutional

The area of Yesoueih is mainly dominated by Saint Joseph University and numerous churches, which gives it a unique character that needs to be preserved.

- Mixed-use

The mixed-use encompasses offices, dormitories, and commercial activities, creating a link to the east side.

4. Spatial infrastructural grid system



Figure 64. Spatial infrastructural grid system (Source: Author,2020)

The following map explains the process implemented for the connectivity scheme (Figure 64). The first step consists of a 60m x 60m grid extending along Damascus and Bechara el Khoury roads. The size of the grid was determined by the width of the main arteries. The second step includes locating the main possible nodes across both areas as connected by the thematic trails. The third step entails the creation of links to facilitate the connectivity between the East and West border zones leading to the definition of pedestrian bridges visually enhanced by vertical lighting poles acting as gate markers.

5. Mobility scheme

The following section describes the proposed mobility scheme that aims at improving the site's permeability and connectivity. The scheme builds and reconfigures the “Liaison douce” project and the initial proposed plan in the workshop. The landscaping design of roads and sidewalks reflect the hierarchy of streets and the local character. In general, the master plan is pedestrian-friendly with ample wide sidewalks, pedestrian alleys, pedestrian bridges, crosswalks, and bike lanes.

The plan revolves around the concept of superblocks, which are mini neighborhoods around which traffic will flow, and spaces will be repurposed as “citizen spaces” (Figure 65).

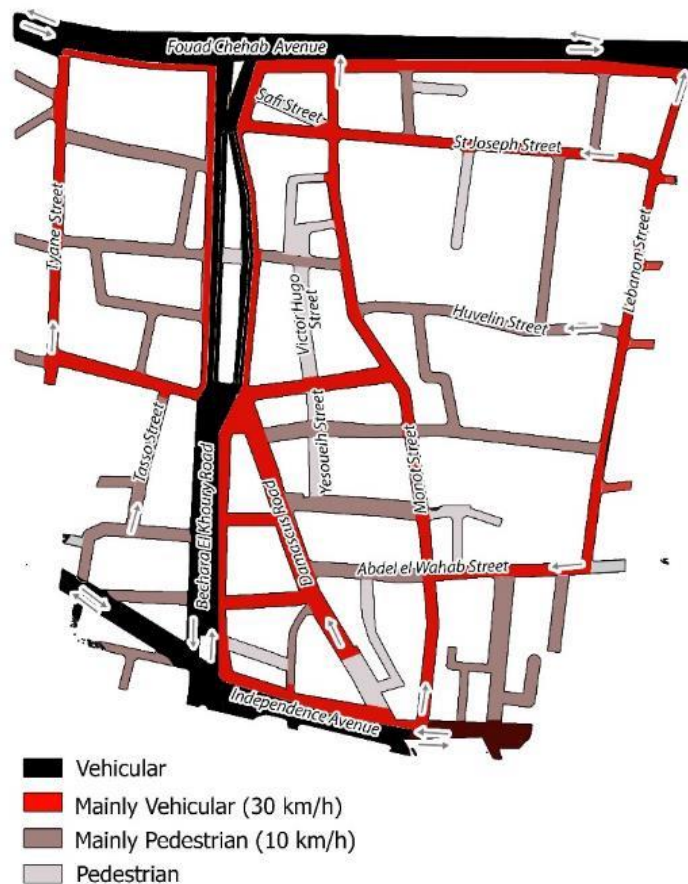


Figure 65. Pedestrian/ vehicular street use (Source: Author,2020)

Moreover, the direction has been reconfigured to create a loop system that revolves around those superblocks, which will consist of two to six existing blocks where roads within it are either semi or fully pedestrian. Vehicular traffic is restricted on the superblock perimeters and is only allowed within for residence or services. Moreover, the speed is significantly reduced from 50km/h to 10km/h.

The plan further enhances the pedestrian experience by recommending a special treatment for the streets and crossings (*Figure 66*). The floor treatment includes elevated distinct pavement with 5 m wide crosswalks.

Moreover, main transversal streets such as Victor Hugo, Yessouieh, and Saifi streets are converted into pedestrian connector streets to become part of an overall walking system.



Figure 66. Mobility plan (Source: Author,2020)

The walkability scheme was further enhanced with the introduction of pedestrian access around the perimeter of USJ and BDD, with at least two access to each block of each compound. New to the pedestrian system is the introduction of pedestrian bridges that link and enhance the connectivity between the zones. The first bridge links the two neighborhoods at the BCD entrance, the second links USJ with BDD, the third provides a strategic connection between the two areas, and the last bridges across the hard-dividing edge of Bechara El Khoury Road. The whole scheme will be complemented by the introduction of a new cycling lane, as well as a bus network, whereby both have stops at the axis between USJ and BDD and at the South Gate zone.

Major underground parking structures and on-street parking will ensure adequate provision for users with accesses and exits near specific landmarks and open spaces such as Beit Beirut museum, Theatre Monot, and the plaza at the South Gate zone. Additionally, bike parkings are introduced at each zone, and mostly around USJ and BDD compounds.

In order to accommodate the significant flow of traffic along Damascus and Bechara El Khoury roads, the plan separates each road into three lanes: two-car through-traffic lanes and a service road with fast food and retails shops located at the GF in between Damascus and Bechara El Khoury roads (*Figure 66*).

As previously discussed, frontages, setbacks, and storefronts determine the image of the area. Thus, the treatment of the streetscape will further enrich the quality of the pedestrian experience, which collectively shapes the walking experience by creating a sense of enclosure.

6. Streetscape design

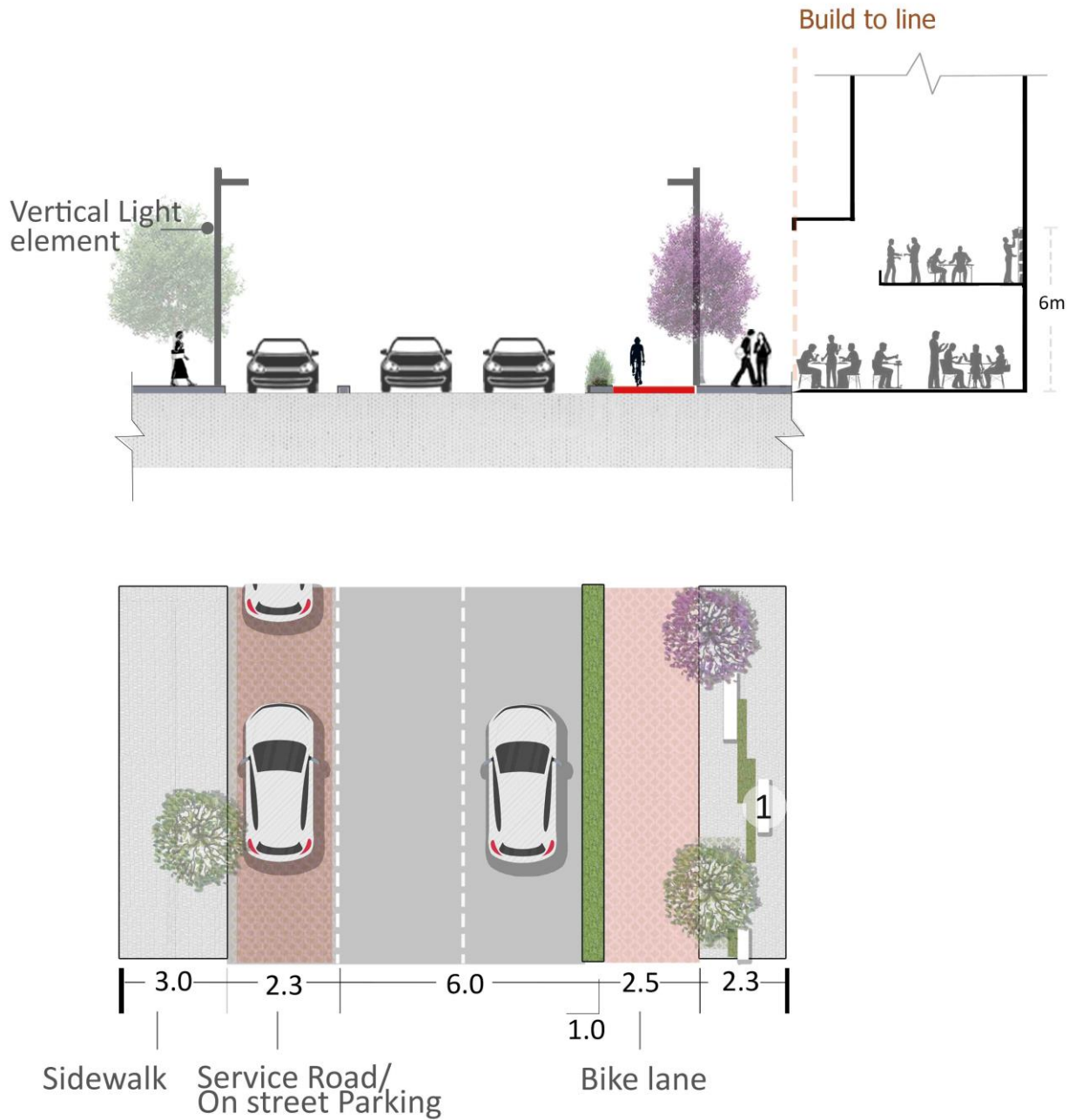


Figure 67. Damascus Road typology (Source: Author,2020)

Damascus Road is a mixed-used commercial transit spine that is fronted by new mixed-use projects, as well as existing commercial and institutional buildings. This strip features wide roads, high traffic volume, a service lane, and a bike lane (*Fig.67*).

The following standards shall be applied:

- All roads should be a minimum of 2.7m for each car, with a service lane of 2m.
- Sidewalks should be a minimum of 2.3m, with 50% appointed for urban furniture.
- Bike lane will be located on the right side of the roads with a width of 2.3m and bike parking at each block.
- Special light features of 10 m, other than the standard lighting, will be situated at each bridge intersection, which act as vertical signage.
- Buildings should not setback on the front line of the parcel, with a ground floor (including mezzanine) height of 6m with a preferred active frontage, referring here to building typology A1.

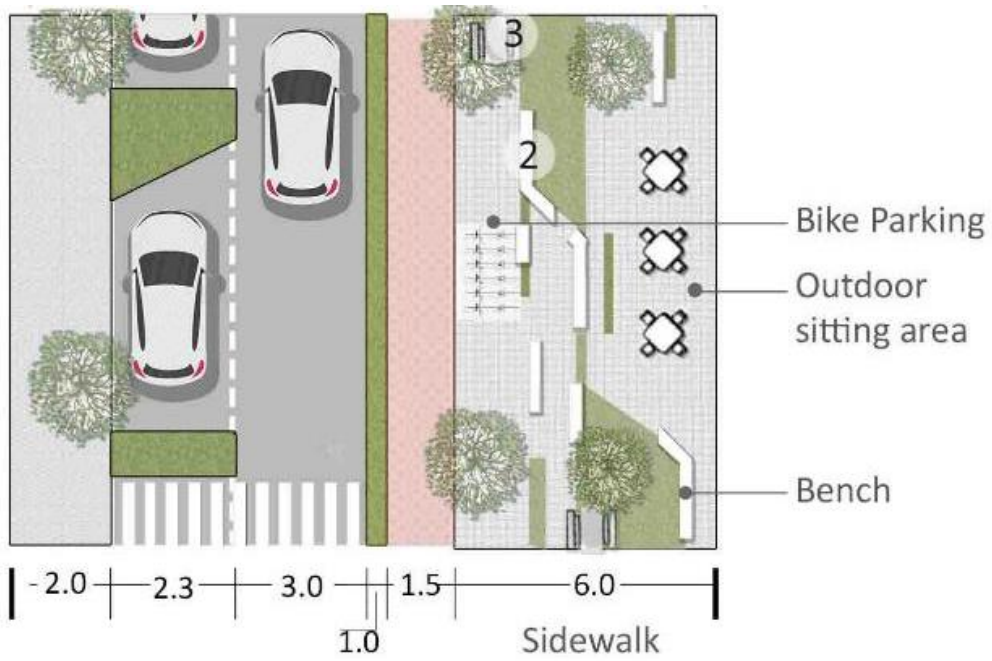
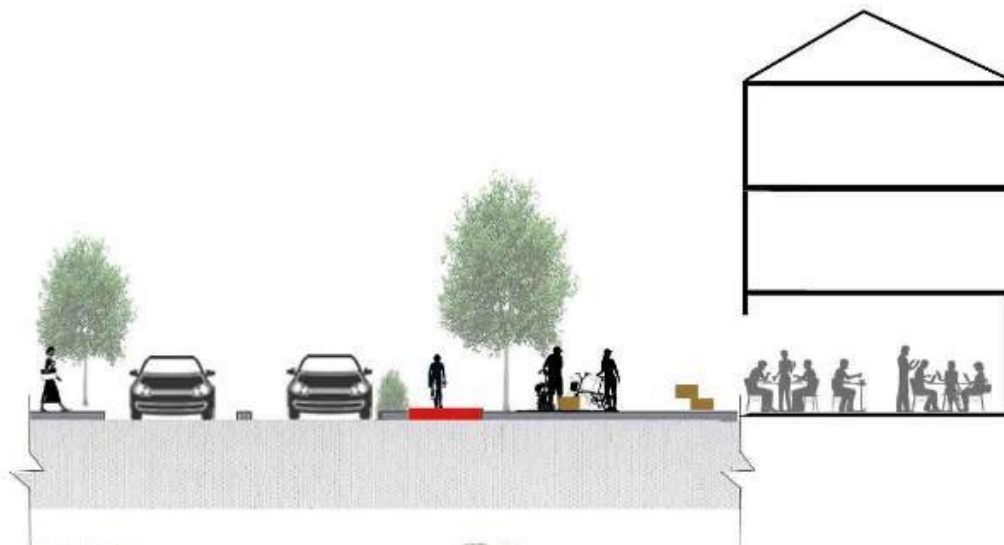


Figure 68. Monot Street typology (Source: Author,2020)

Monot Street is and will stay as “the Art and Entertainment strip”, anchored by “Pacifico”, “Theatre Monot”, “Beit Beirut”, and more (Figure 71). Also, it features several cultural uses and historic buildings that have unique frontages. The following standards shall be applied:

- The road should be a minimum of 3m with on-street parking of 2.5m.
- Sidewalks should be a minimum of 2m, in the case of a wide sidewalk, a minimum of 50% is dedicated to urban furniture.
- Bike lanes shall be located on the right side of the roads with a width of 2.5m and bike parking at each block.
- Building along Monot Street are to follow a mandatory setback of 3m by following building typology B2. Active frontages are required.
- All landscaped areas should include a combination of low, medium, and tall plants appropriate for an appealing and effective landscape.

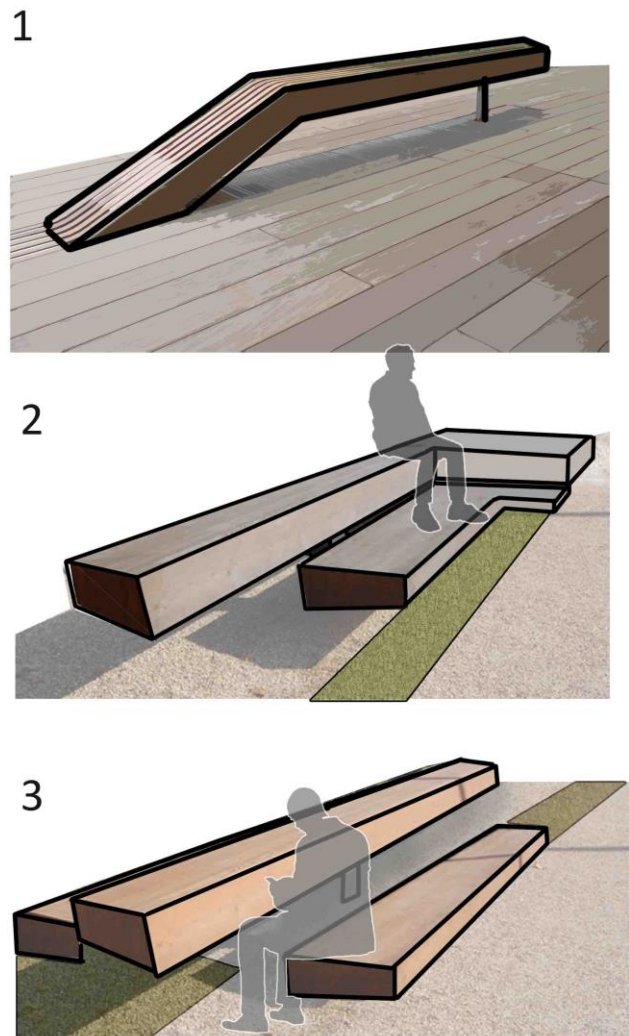


Figure 69. Urban furniture design (Source: Author,2020)

Seating is to be provided using portable or fixed furniture. 1 is a simple bench that is part horizontal that slides into the pavement, the second is ideal for multiple levels of seating mode, and the third is a simple table with benches. They are made of steel and covered in wood, all supported by aluminum pipes.



Figure 70. Tree planting scheme (Source: Author,2020)

The scheme for tree-planting has been established, where the size and type of tree, reflects the hierarchy of a place. Two types of trees, which have been part of the area’s landscape since the war, will be part of the planting scheme. The first type consists of a distinct tree “Jacaranda Mimosifolia” that will be planted at both ends of Damascus and Bechara El Khoury roads, where they will act as gate markers. “Ficus Nitida” are ideal for shading and are, therefore, placed around plazas and along sidewalks. The median between the car lane and the bike lane is planted by “Myrtus communis”, a dense elevated shrub. For open spaces and patches on the sidewalk, Bermuda Grass, an easy-growing and heat resistant grass, was used (*Figure 70*).

7. Landmarks and open spaces

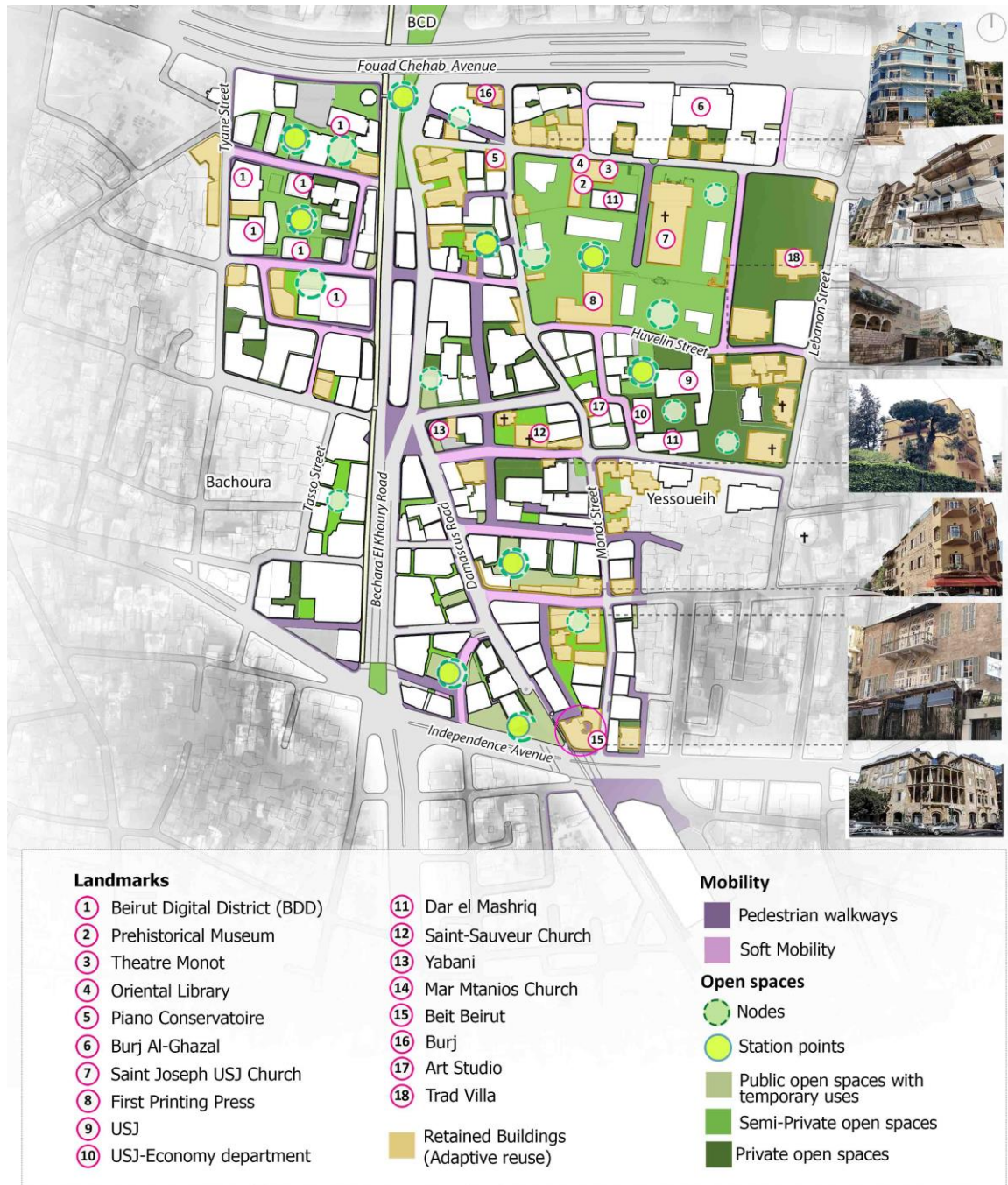


Figure 71. Landmarks and open space network (Source: Planning Workshop & Author, 2019)

A thorough survey was conducted to identify significant civic, religious, and heritage buildings to be preserved (*Figure 71*). The pre-war monuments are mostly concentrated along Monot, Huvelin, Lebanon, and Abdel Wahab streets, which include the Prehistorical museum, the Oriental Library, and the Beit Beirut museum. Nevertheless, modernist buildings such as Burj El Ghazal, Yabani, USJ campus and offices building along Bechara El Khoury are essential as well.

All these monuments work as focus points that can either be nodes or station points, where some will be re-purposed for new cultural or educational uses.

Vital for this scheme is the establishment of public spaces that include public & private open spaces and passageways repurposed for a variety of temporary social and recreational programs such as art fairs, farmer's market, and concert venues. Proposed open spaces include a plaza in the South Gate zone district, a small park next to USJ, and small paseos across the campus interface. Some open spaces are established at significant places of historical importance. One example is a proposed amphitheater by Urbi+Sitram, next to the Beit Beirut museum, which firmly establishes itself as one of the most significant post-war buildings.

Those spaces will become places of gathering among residents, students, and tourists. As a result, the scheme of stations/nodes and open spaces has allowed the creation of links and trails that aim at improving the site's connectivity (*Figure 71*).

8. Links and trails

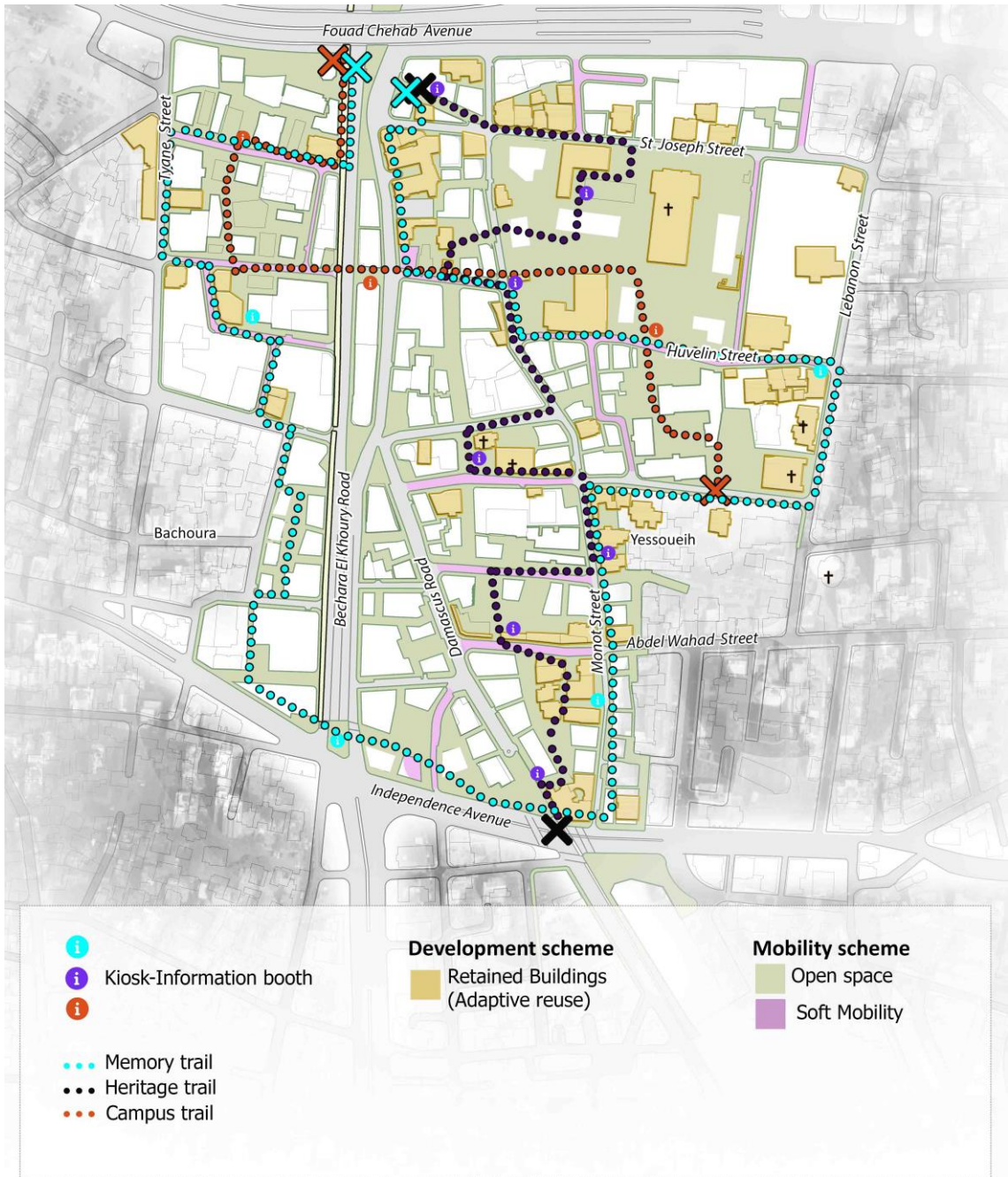


Figure 72. Thematic trails (Source: Author,2020)

Connecting stations and focus points results in the formation of three trails (*Figure 72*). Those trails reinforce the identity and connectivity of the site while commemorating its history.

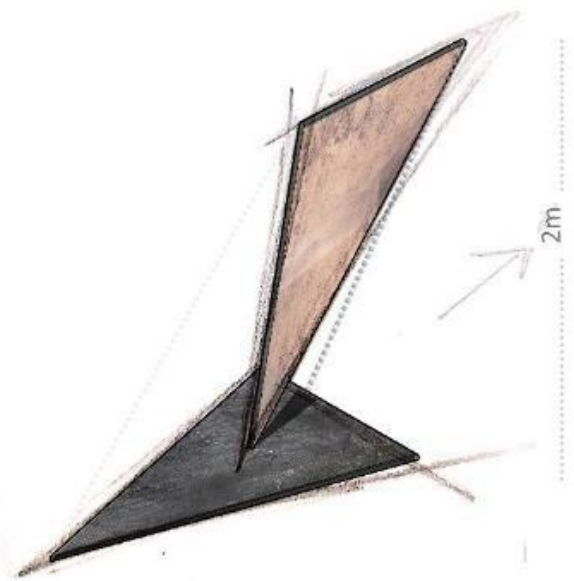
The memory trail links both sides in a tour of all the cultural and historical spaces and structures, which narrates the story of the area before the war until now. It debuts from BDD and ends at the BCD Office Gate zone.

The heritage trail focuses on colonial period buildings, which will house new activities and narrate the architectural evolution of the area. It starts from the Beit Beirut museum and ends at the BCD Office Gate zone.

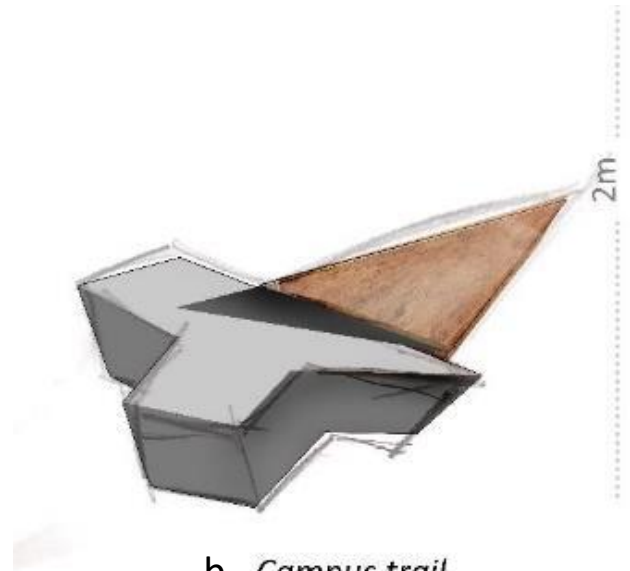
The campus trail connects both compounds while going through main landmarks and campus-related activities.

Along those three trails, users can locate themselves following the marking lines on the ground and the small proposed urban furniture that are distinct to each trail.

a. Trail's Urban furniture



a *Memory trail*



b *Campus trail*



c *Heritage trail*

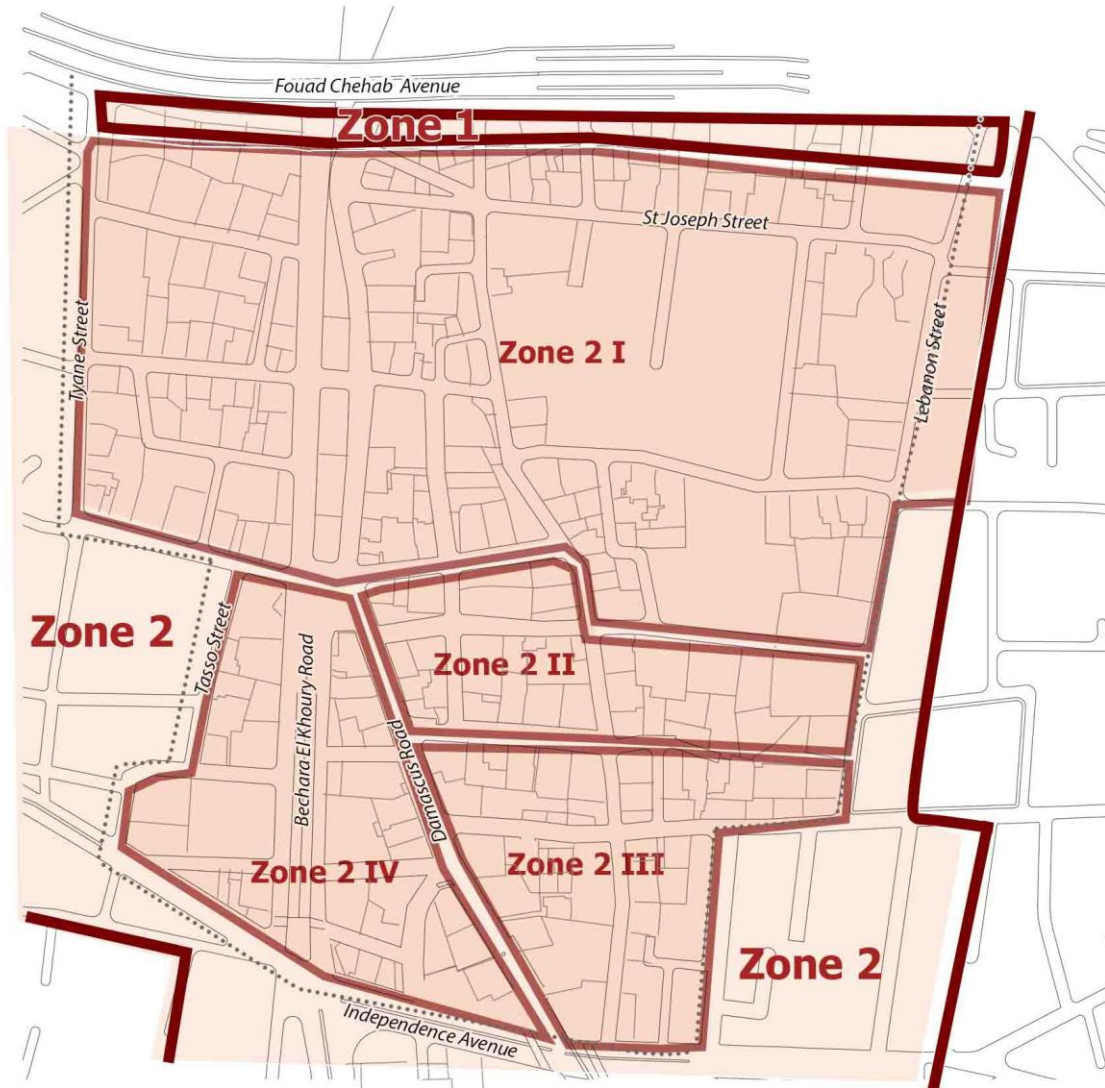
Figure 73. Trail's urban furniture (Source: Author,2020)

Sculpture ‘a’ is an urban landscape feature that helps by guiding the users through the memory trail. Its triangular shape points out the direction by orienting the masses in between the public spaces. The base is carbon steel, and the top part is stainless steel, which, with time, erodes in a specific manner, paying homage to the past aesthetically (*Figure 73*).

Sculpture ‘b’ furniture is part of the campus trail, and it is a simple seating block, with a stainless-steel panel on the back that points out the trail direction. It is a modular design that could be replicated and put together to get multiple types of seating (*Figure 73*).

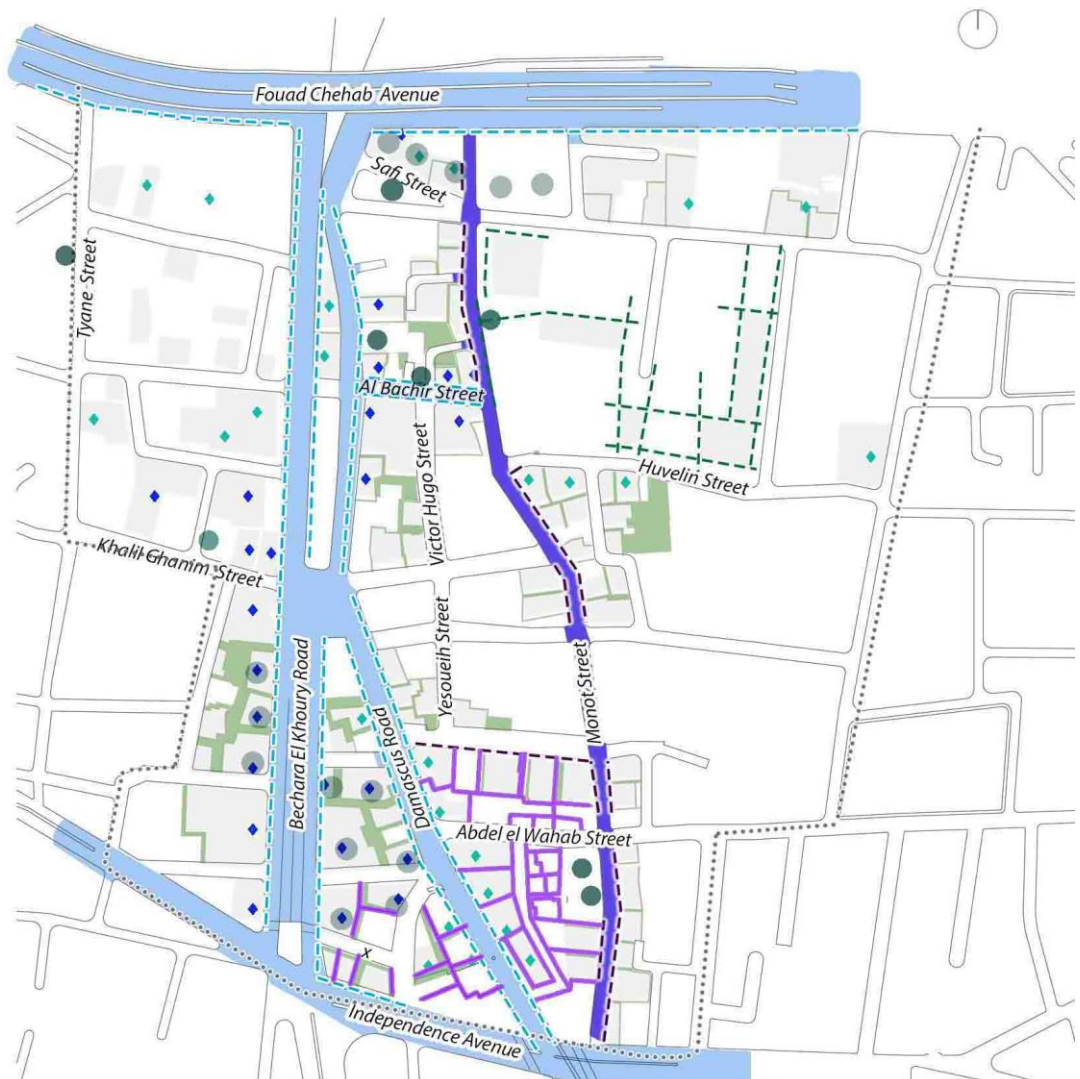
Sculpture ‘c’ defines the heritage trail, which narrates the story behind each historical structure, with information engraved at the center panel. The material used is carbon steel, with one panel made of stainless steel that indicates the direction as well (*Figure 73*).

9. The legal framework & implementation tools



Zone	Sub-Zone	Constructible Parcels			Setbacks From Road Centerline	Floor exploitation	FAR	MAX HEIGHTS
		MIN. AREA (SQM)	MIN FRONTAGE	MIN DEPTH				
1	BCD Gate	100	9	7	4.5	100%	6	61/LE
2-I	Campus Interface	100	9	7	4.5 for roads > 9m 6 for roads < 9m	GF 100% TF 70%	5	61/LE
II	Uptown Monot	100	9	7			5	61/LE
III	Heritage Quarter	500	25	20			5	30m
IV	South Gate	100	9	7			5	61/LE
ALL ZONES	Freezing land-pooling and subdivision							

Figure 74. Zoning sub-division (Source: Author,2020)



- Block development**
 Preferred Reparcelization
 Right of way
 Transfer of development right
 Sender Receiver
- Street wall control**
 Build to line
 Mandatory setback of 3m
 USJ campus specific setbacks
- Infill development***
 Recessed GF building (min 1.5m)
 Podium /Terrace building
 Underground Parking

Special Regulations	Zone	Sub-Zone	Block	Setback between parcels (Right of way)	Streets	Street wall control	Infill Building typology
	1	BCD Gate	TDR "Receiver"	2m	Safi Street	Fouad Chehab Avenue Damascus & Bechara El Khoury roads Monot street	P
2-I	**Campus Interface	TDR "Sender"	1m	Victor Hugo Street	Al Bashir Street Damascus & Bechara El Khoury roads Monot street	P	
2-II	Uptown Monot	Right of way	1m	Yesoueih Street	Huvelin, Monot, St Joseph street Monot street	P	
2-III	Heritage Quarter	Right of way Reparcelization	2m	Yesoueih Street	Damascus Road Monot street (Colonnade)	P	
2-IV	South Gate	TDR "Sender" Right of way	2m	x Street	Independence Avenue Damascus & Bechara El Khoury roads	P	

* Detailed section
 ** This zone includes special regulations to USJ campus,

Figure 75. Special regulations (Source: Author,2020)

To reach responsiveness, the regulatory framework was slightly modified in addition to more detailed regulations.

The proposed masterplan proposes the division of Zone 2 into subzones, to apply specific regulations on each character zone.

The first table shows the existing zoning with modifications (red). To preserve the heritage fabric, the heritage quarter's minimum constructible parcel size was altered from 100m² to 500m² to protect heritage buildings (as they become non-constructible lands), and the height limited (*Figure 74*).

The second table is an additional document that represents the special regulations for each sub-zone (*Figure 75*). At the same time, the USJ campus has its own regulations found in the last section of "Urban design plans and guidelines".

At the block level, the objective is to mitigate the anticipated development by imposing new regulations. The first tool includes the Transfer of Development Rights, which transfers the remaining buildable area to another block to protect the heritage buildings (*Figure 76*). The second tool is reparcelization, which protects heritage buildings by reducing their lot size to be under the minimum constructible parcel size. This action is complemented by a new policy that prevents land pooling and subdivision. Moreover, the reparceling helps the municipality to acquire 25% of the land for public uses, to create open spaces, and create perimeter development in specific blocks. Finally, mandatory setbacks within the private lots and in between parcels, enable the formation of "right-of-way", which are used as publicly accessible spaces (*Figure 75*).

As for infill development, new developments must comply with specific building guidelines (typology) to preserve the aesthetic qualities of the old fabric. This

includes mandatory setbacks and ‘build to line’ requirements that are imposed according to road type. ‘Build to line’ (with Podium/terrace building typology) are proposed along wide streets, which include Al Bashir Street, Damascus, and Bechara El Khoury roads, as well as Fouad Chehab and Independence avenues. As for mandatory setbacks (with recessed ground floor building typology) they are imposed along narrow streets, which include Monot, Huvelin, and St Joseph streets (*Figure 75*).

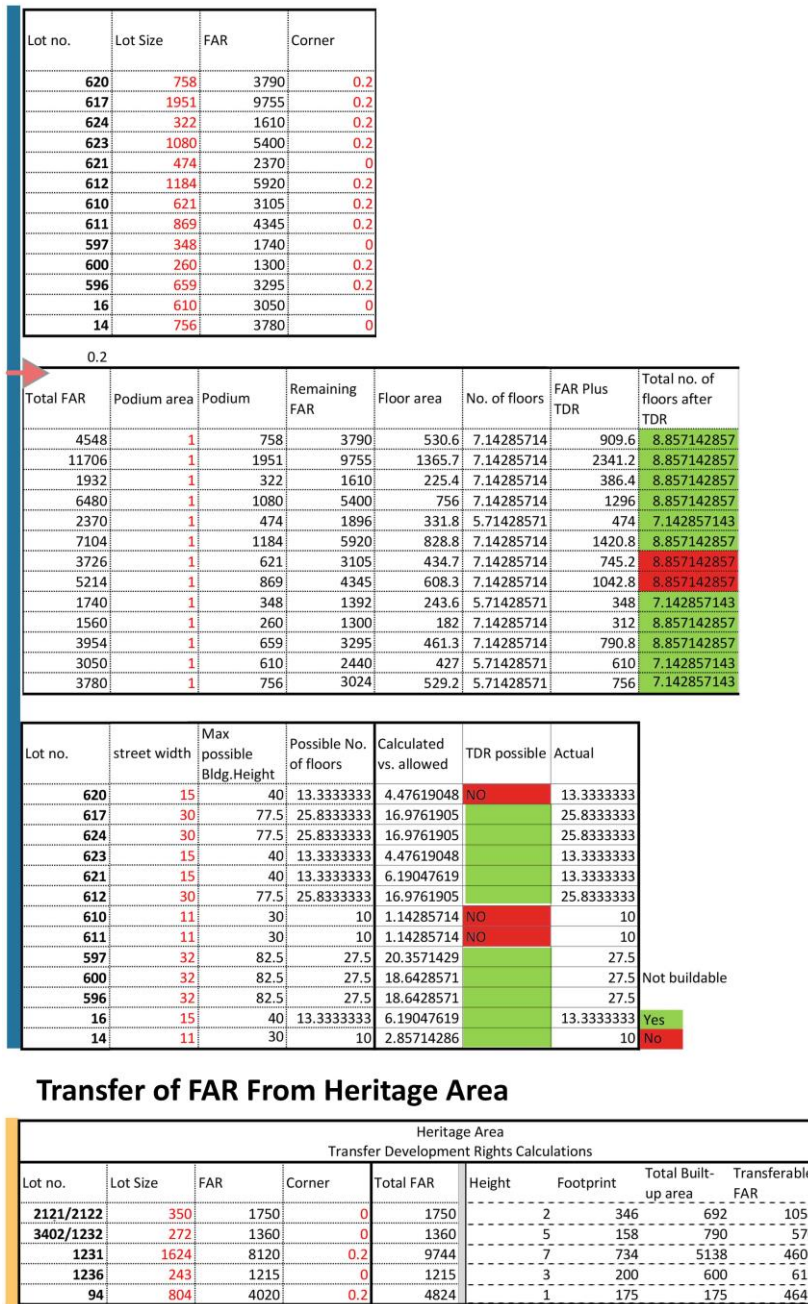


Figure 76. Feasibility study (Planning and design team, 2019)

Sender Receiver

a. Tools for heritage preservation & open spaces

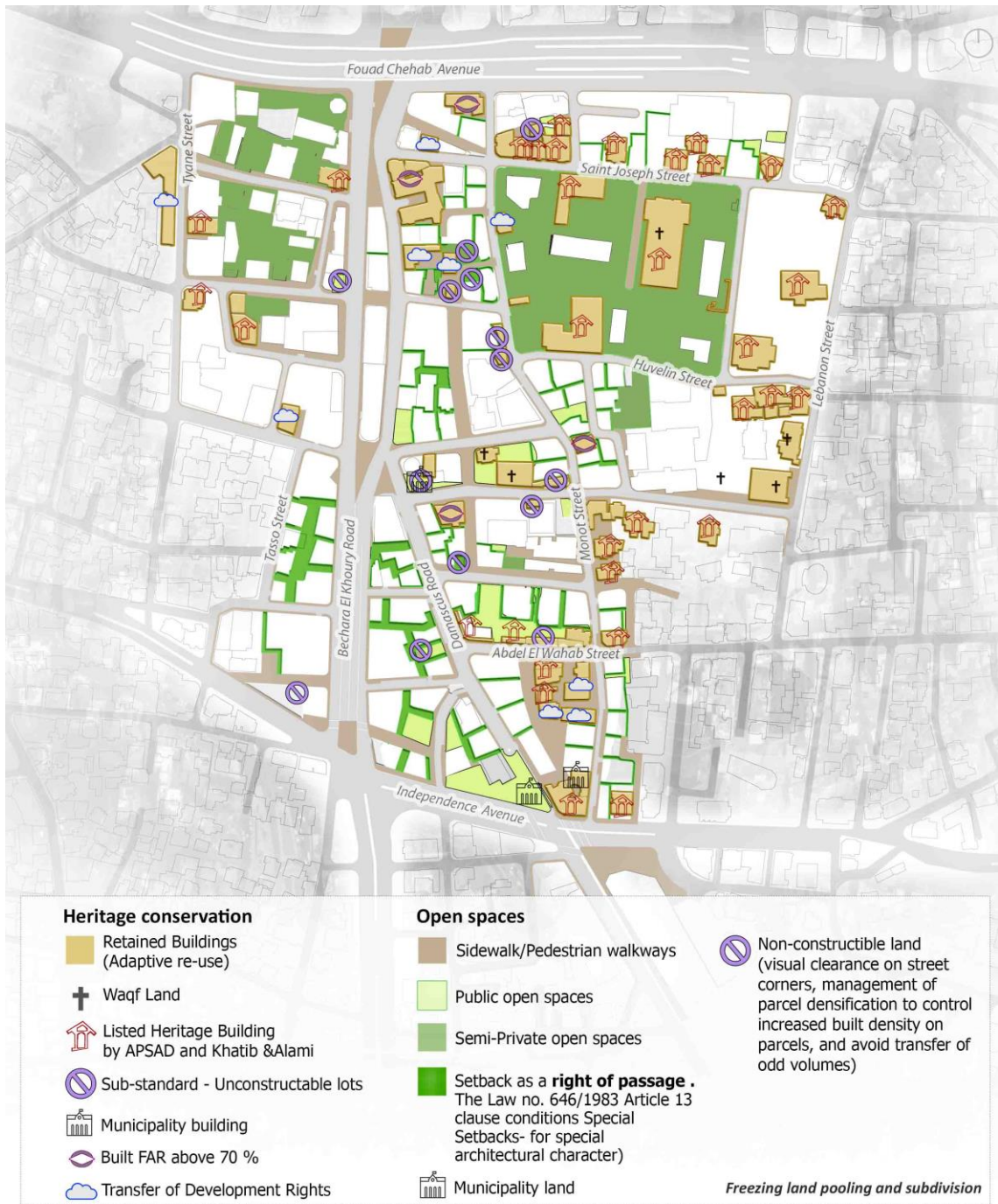


Figure 77. Map showing the tools for heritage preservation & open space network (Source: Author,2020)

The following diagram further explains the tools applied for the preservation of heritage buildings as well as the creation of the open space network (*Figure 77*).

For the implementation of historic preservation policies, the scheme builds on the opportunities offered by the site, such as: “Waqf” lands, listed heritage buildings by ASPAD, sub-standard lots (non-constructible), and municipal lands.

The “Waqf” lands and ‘listed heritage buildings’ are highly prevalent and found across the Yesoueih area, with high concentrations across Saint Joseph, Huvelin, Monot, and Lebanon streets. The ‘sub-standard parcels’ are not conducive to re-development under zoning regulations, and since land-pooling is restricted, developers are discouraged from acquiring those lands and from implementing large scale development, thus preserving the historical townscape.

As for the open and public space scheme, non-constructible lots can be integrated within the public realm. First, the municipality forms a unit (experts in the field of design, economics, and other city-related issues) within its premises, to investigate and shortlist the potential non-constructible parcels. If the land is public, short-term leases or adaptive rental contracts are issued for temporary use. If it is a privately owned land, the municipality can offer incentives in the shape of tax relief, reduction of running costs, and subsidized clearance for dilapidated lands. In return, the owners support the temporary appropriation of their sites to host temporary-use programs. This is supported by the creation of private-public partnerships between landowners and private entities (USJ or BDD) and public bodies (minister of cultural or tourism). Since the municipality does not show commitment or support for temporary use projects, they are to be initiated and funded by private organizations, which can include NGOs or small organizations, such as a neighborhood planning initiative.

10. Detailed Zone B, D, and E: Detailed sector plans



Figure 78. Selection of intervention areas

Detailed urban design plans and guidelines are proposed for Sector B, D, and E, including street wall controls, upgrading schemes for streets and open spaces, and detailed guidelines for private development. The urban design plans are structured around the same themes used in the district master plan.

a. Zone D and E: The South Gate and Conservation Area sectors.

Sector D/E detailed plan includes part of the South Gate sector (Zone D) and part of the Conservation Area sector (Zone E). The South Gate sector is envisioned to be a high-rise mixed-used area framing the axis between the Eastern and Western border zones. In the Conservation Area sector, new regulations are proposed for the preservation of period buildings and existing urban fabric.

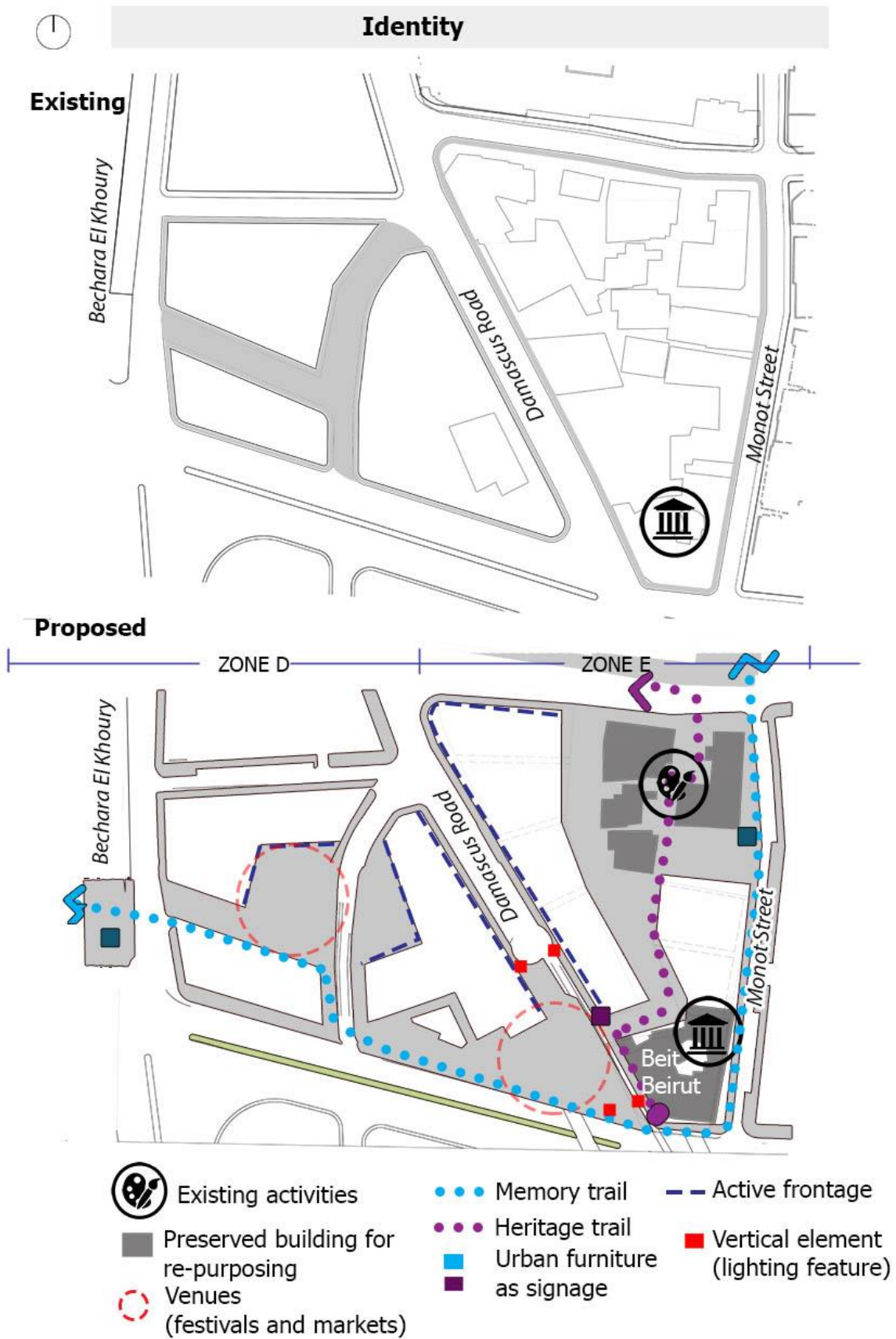


Figure 79. Zone D and E design – 'Identity' (Source: Author,2020)

Identity (*Figure 79*):

A mix of uses, with an emphasis on high-rise office developments, is recommended for Zone D. In contrast, a mix of cultural and commercial activities is recommended in Zone E. For example, in Zone E, Beit Beirut museum and a group of preserved old vacant buildings nearby, are to be rehabilitated to house cultural activities, such as art workshops, studios, or co-working spaces. Moreover, to provide an active and varied street environment, services and retail shops will be introduced at the ground level surrounding the opens spaces in Zone D and along Damascus Road in Zone E.

The ‘heritage trail’ starts from the Beit Beirut museum and passes through Monot Street, while the ‘memory trail’, starting from the Bachoura, passes across Zone D open plaza and continues throughout Monot Street. During these promenades, users are guided by ground-color markings and small information booths.

Finally, this zone (D/E) acts like the Southern gate to the project and is, therefore, emphasized with two vertical lighting features and distinct trees.

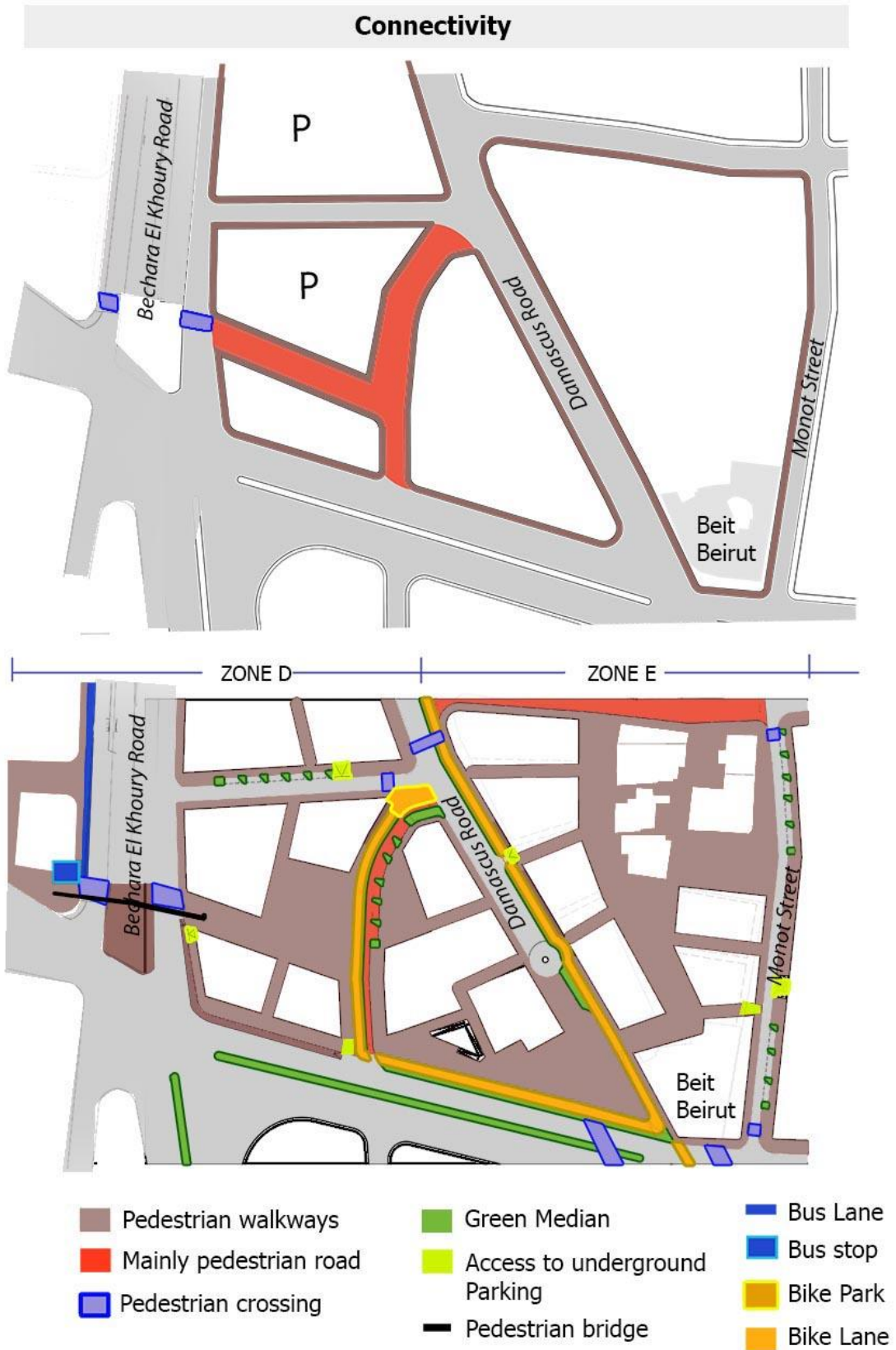


Figure 80. Zone D and E design –‘Connectivity’ (Source: Author,2020)

Connectivity (*Figure 80*):

Liaison Douce project envisioned the pedestrianization of a section of Damascus Road, to create a gathering space near the Beit Beirut Museum. This action was further enhanced with the continuation of the bike lane coming from Zone E and ending at Zone D

Additionally, the proposed bus lane that runs along Bechara el Khoury Road has a stop that allows commuters to access the South Gate (Zone D) through a pedestrian bridge, after which they can rent a bike to start their route towards the area of Yesouieh (Zone E).

In terms of parking requirements, each block has on-street parking for short term use, and at least two access points to underground parking structures.

Open and public spaces (*Figure 81*):

The aim is to develop significant public spaces, like an open-air amphitheater near Beit Beirut museum in Zone E (Liaison Douce Project), and a central open public space in Zone D.

In Zone D, the proposed perimeter configuration of buildings reinforces the importance of the plaza, while retail shops are encouraged to create an active streetscape. From there, a direct access leads to an adjacent open space facing the Beit Beirut museum. This space is an open amphitheater with a temporary structure, which could eventually host musical and artistic events. In Zone E, a wide passageway was designed within the first heritage quarter block to create an axis that guides the user towards the group of re-purposed buildings and more.

Private development

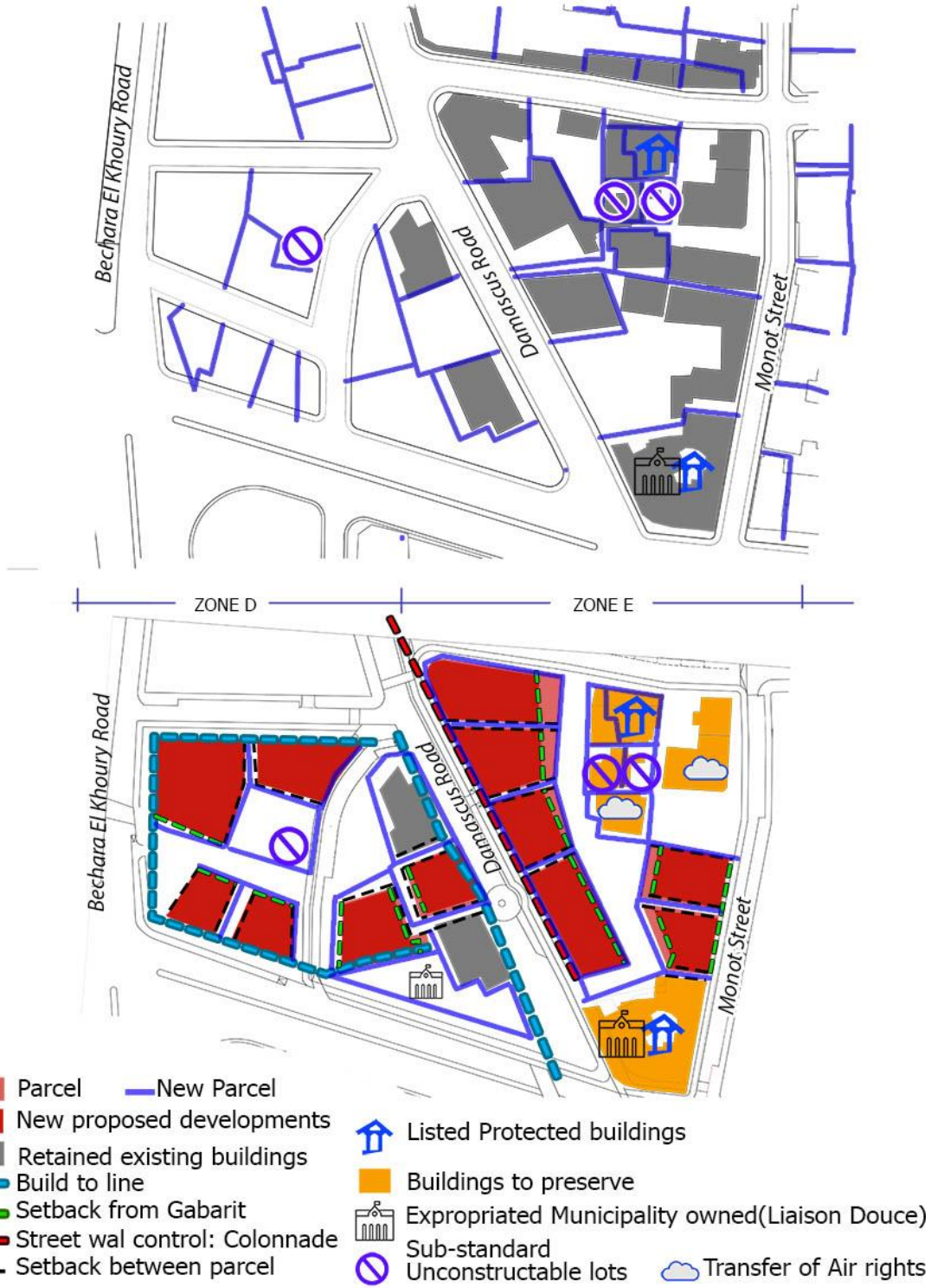


Figure 82. Zone D and E design – ‘Private development’ (Source: Author,2020)

Private development (*Figure 82*)

The re-parcelization favors for a perimeter development on Zone D and protects the historical fabric of Zone E. Moreover, the scheme limits the height for sector E to 30m (low-density development area), in order to respect the historic fabric.

In Zone E, the conservation scheme consists of preserving a group of old colonial period buildings, by using tools previously discussed in section 10. Moreover, in the Conservation Area along Damascus Road, an arcade is designed as an extension of the public sidewalk, intended as an open colonnade structure built as part of the building façade, which provides shelter for pedestrians and offers commercial activities and a pleasant stroll.

Finally, typology A2 and B2 (Recessed ground floor and terrace building following ‘build to line’) are located on the inner roads (Monot Street), and typology A1 and B1 buildings (Recessed ground floor and terrace building) are situated on the edges of main arteries (Damascus and Bechara El Khoury roads).

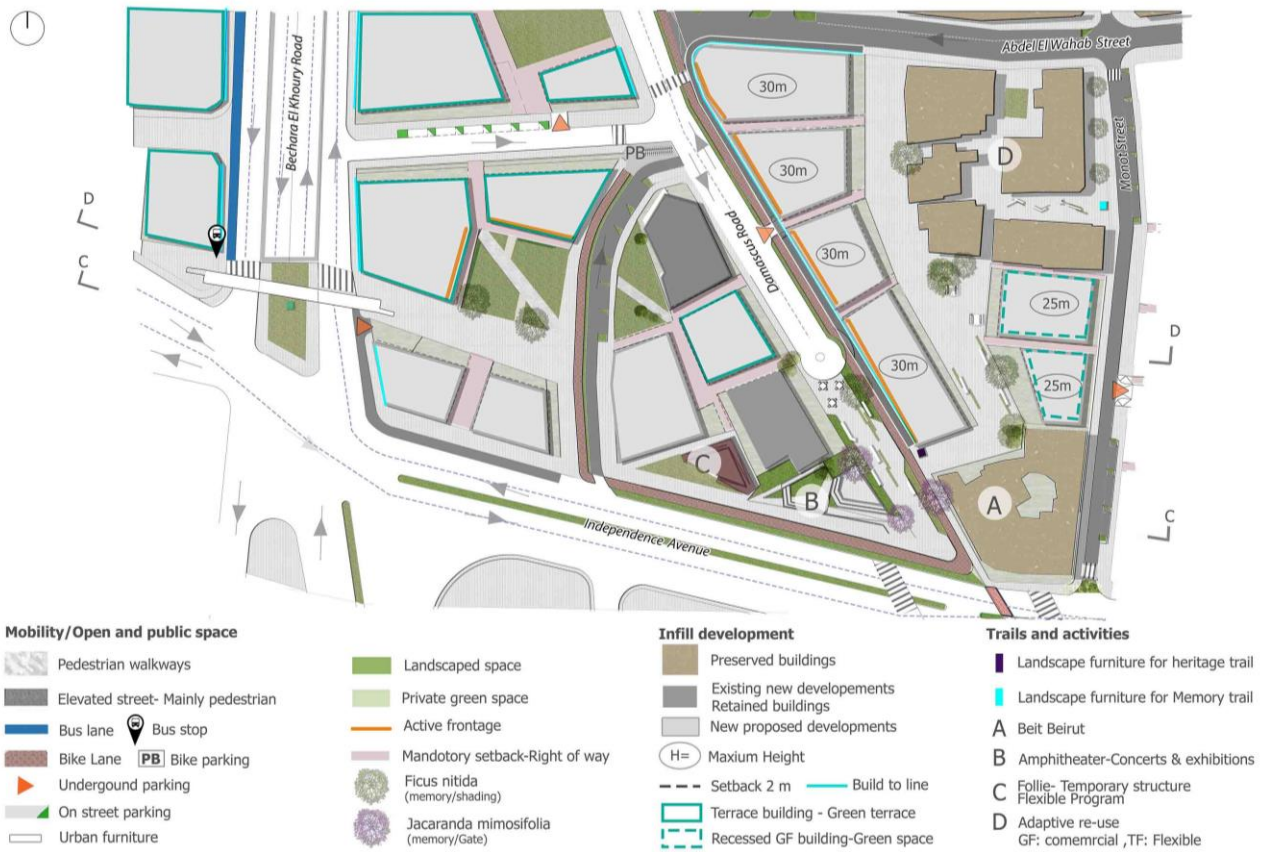


Figure 83. Urban Design plan of Zone D and E: The South Gate and the Conservation Area sectors (Source: Author, 2020)



Figure 84. Perspective of Zone D and E sectors (Source: Author,2020)



Figure 85. Conservation area sector- Urban design guidelines (Source: Author,2020)



Figure 86. South Gate sector - Urban design guidelines (Source: Author,2020)

b. Zone B: The Campus Interface Sector

Sector B detailed plan treats both the Eastern and the Western zone, by linking USJ and BDD campus, while offering a mix of activities that caters to both the students and the employees of BDD (*Figure 87*).

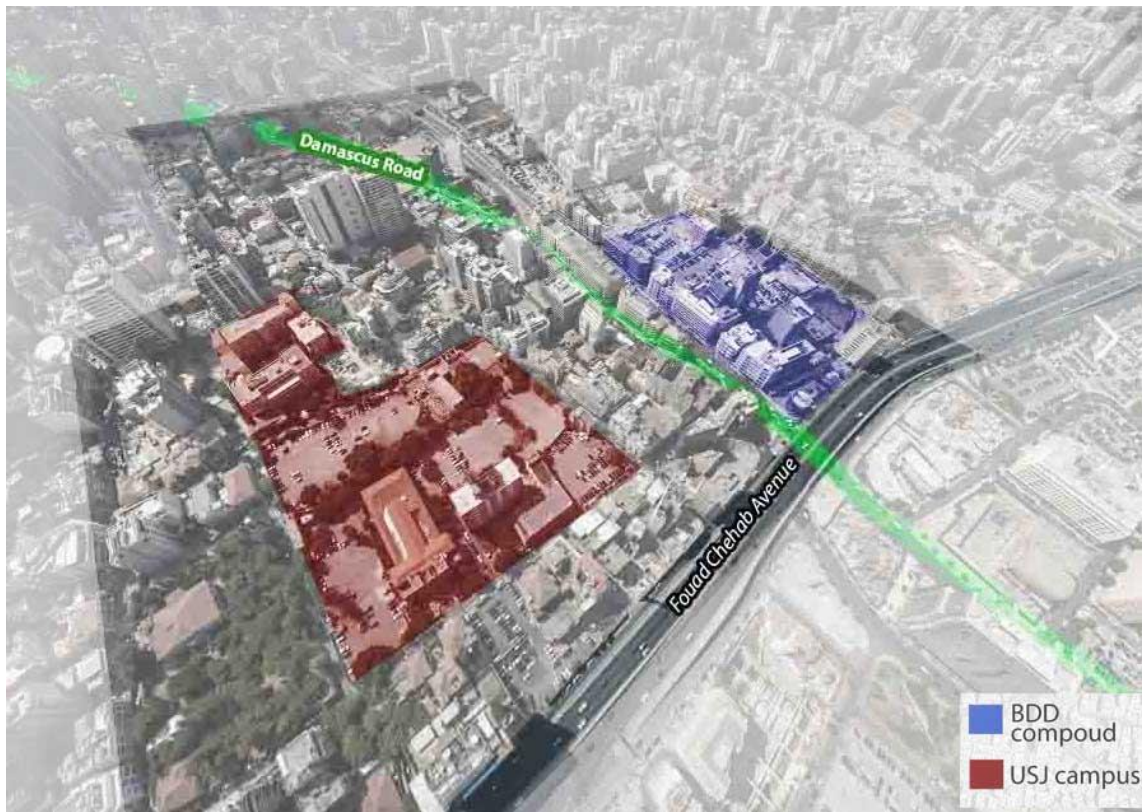
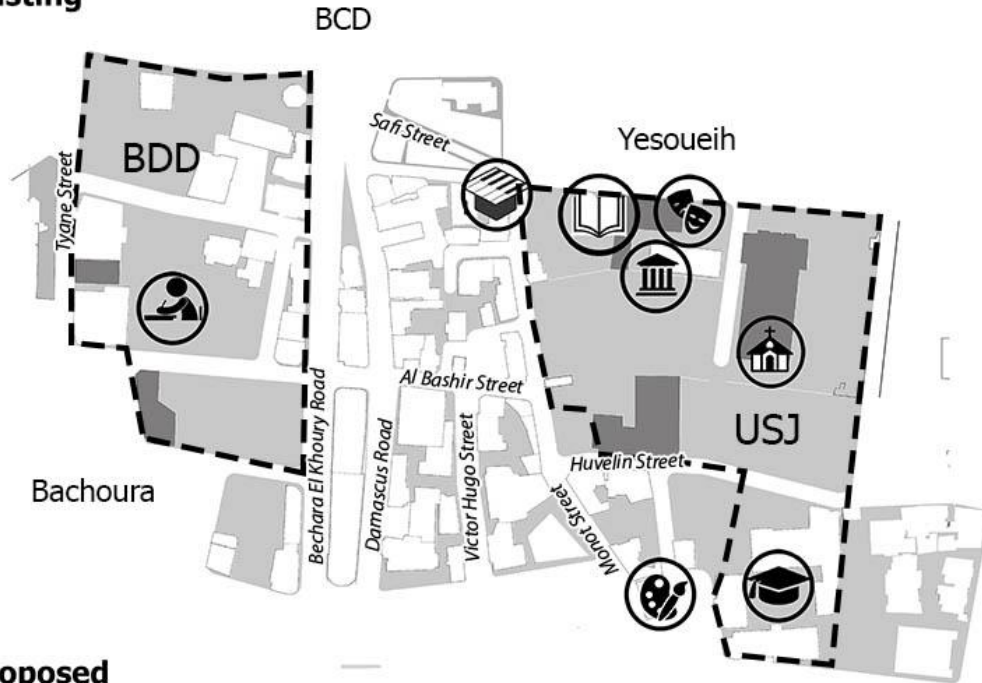


Figure 87. Aerial view of Beirut showing the campus interface (Source: Author, 2020)



Identity

Existing



Proposed

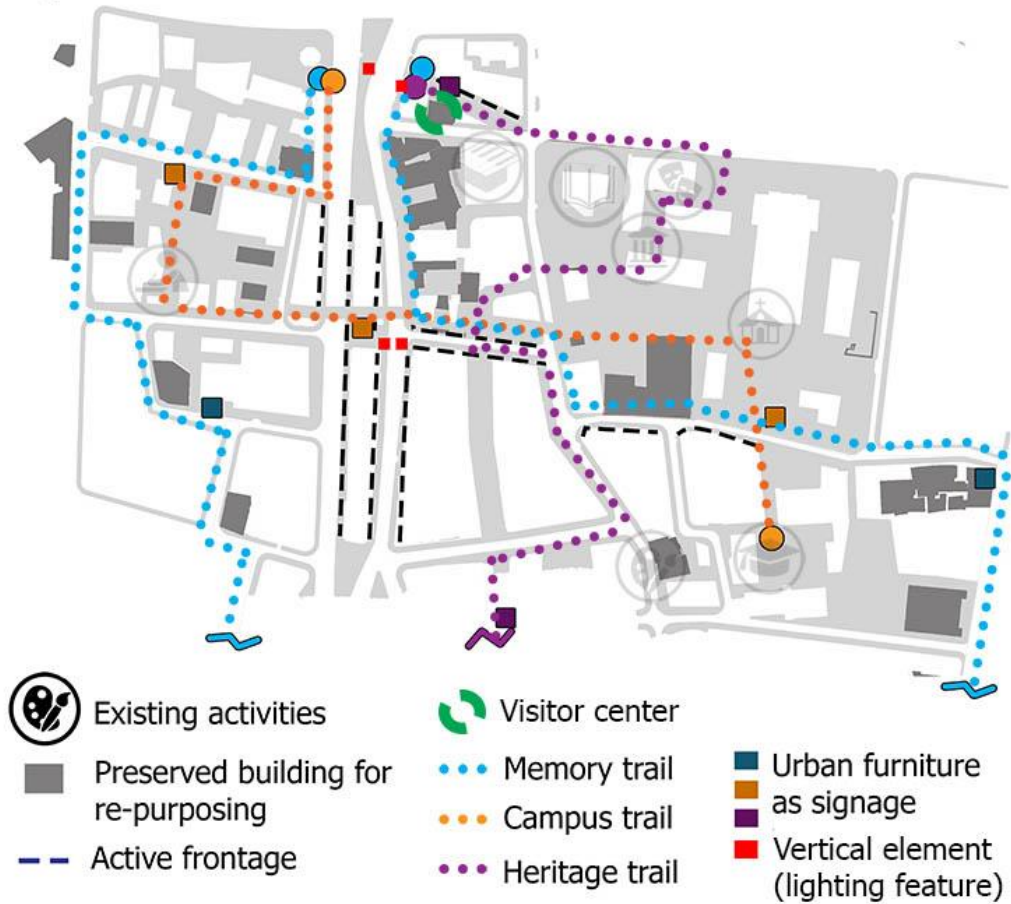


Figure 88. Zone B design – ‘Identity’ (Source: Author,2020)

Identity (*Figure 88*)

A mix of cultural, educational, and commercial activities is recommended for Zone B. The old vacant buildings around the USJ printing press, including it, are to be rehabilitated and/or appropriated for cultural uses. Moreover, services and retail shops will be mainly located in the row of buildings between Damascus road and Bechara El Khoury and along Monot, Al Bashir, and Huvelin streets. At Ibrahim Safi Street, a two-floor ottoman vacant building is to be re-purposed as a visitor center. Adjacent to this center is a stop for the proposed public loop bus network and an existing company in Lebanon that offers a Hop-On Hop-Off Bus Tour.

The ‘campus trail’ starts at BDD and ends at the USJ campus while passing through re-purposed structures with students’ activities. The ‘heritage trail’ starts from the heritage quarter ends at the BCD Gate sector, at the visitor center. As for the ‘memory trail’, it starts at BDD and ends at the visitor center building.

Connectivity



Figure 89. Zone B design – ‘Connectivity’ (Source: Author,2020)

Connectivity (*Figure 89*)

The area's walkability is enhanced with the implementation of wide sidewalks and passageways. A significant change is the proposed pedestrianization of many streets like Ibrahim Safi and Victor Hugo streets, with an emphasis on the axis between USJ and BDD.

Additionally, the bus lane that runs along Bechara el Khoury has a stop next to BDD and USJ, where commuters can access the USJ campus through a pedestrian bridge. As for the bike lane, it runs along Monot Street and has two parking, next to USJ and the visitor center.

The service lane will have fast foods and retails located on the ground floor in between Damascus and Bechara El Khoury roads.

In terms of parking requirements, each block has on-street parking for short term use and at least two access points to underground parking structures

Open and Public Space

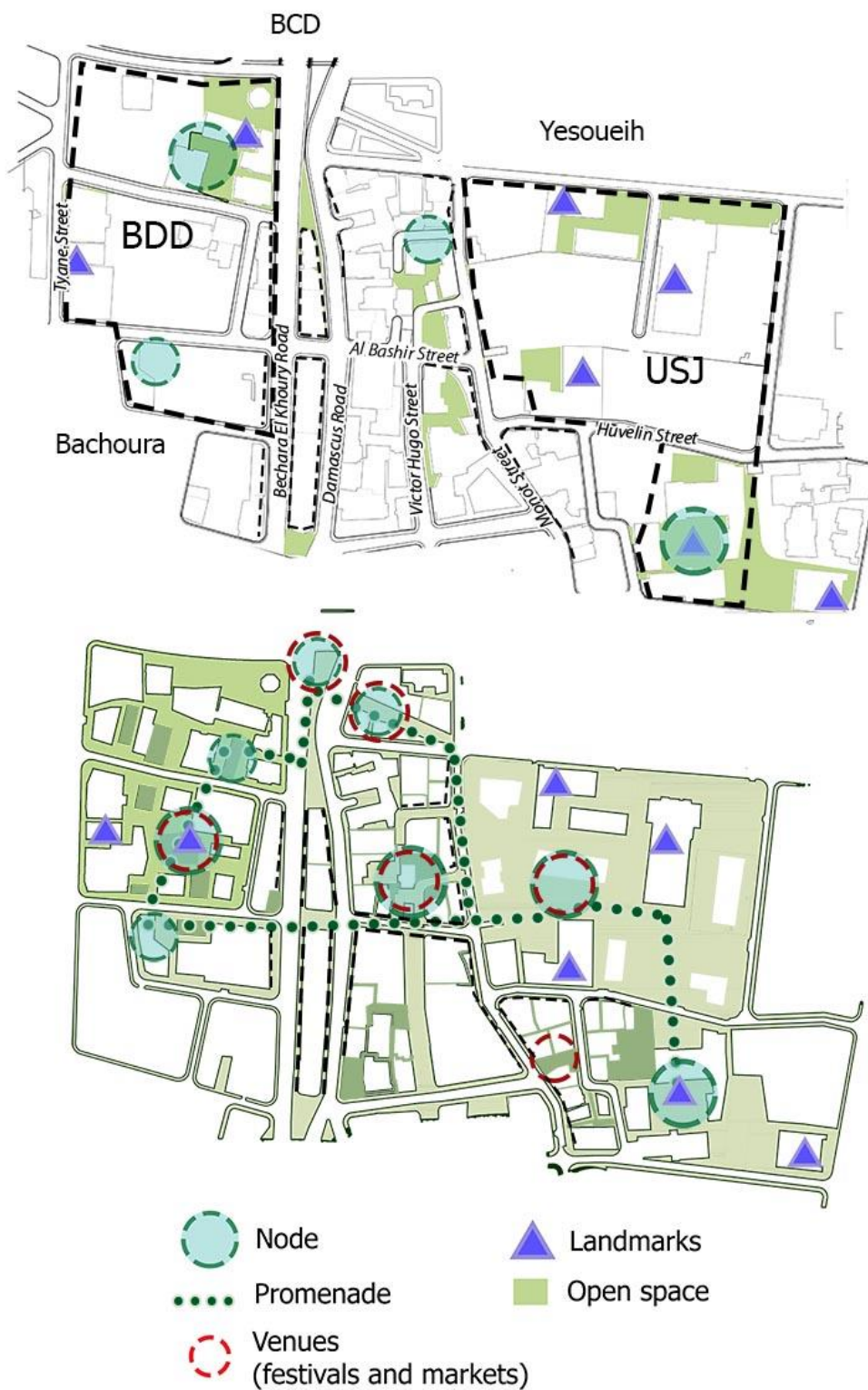


Figure 90. Zone B design – ‘Open and public spaces’ (Source: Author,2020)

Open and public spaces (*Figure 90*)

In the Western border zone, BDD occupies a prominent position with multiple plazas. The last block of the BDD complex aligns with a direct axis that leads to the USJ campus in the Eastern border zone. In between these zones, a long-stretched plaza acts as the main node connecting Bachoura, BCD, and Achrafieh. In fact, many open spaces are used as venues for festivals and markets.

In the Eastern border zone, the process of dedicating land to additional open spaces has enabled the establishment of three street-wide gardens located on the campus of USJ, which are at Victor Hugo, Monot, and Huvelin streets. These paseos are intended as local parks for residents and students of the area.

Private development

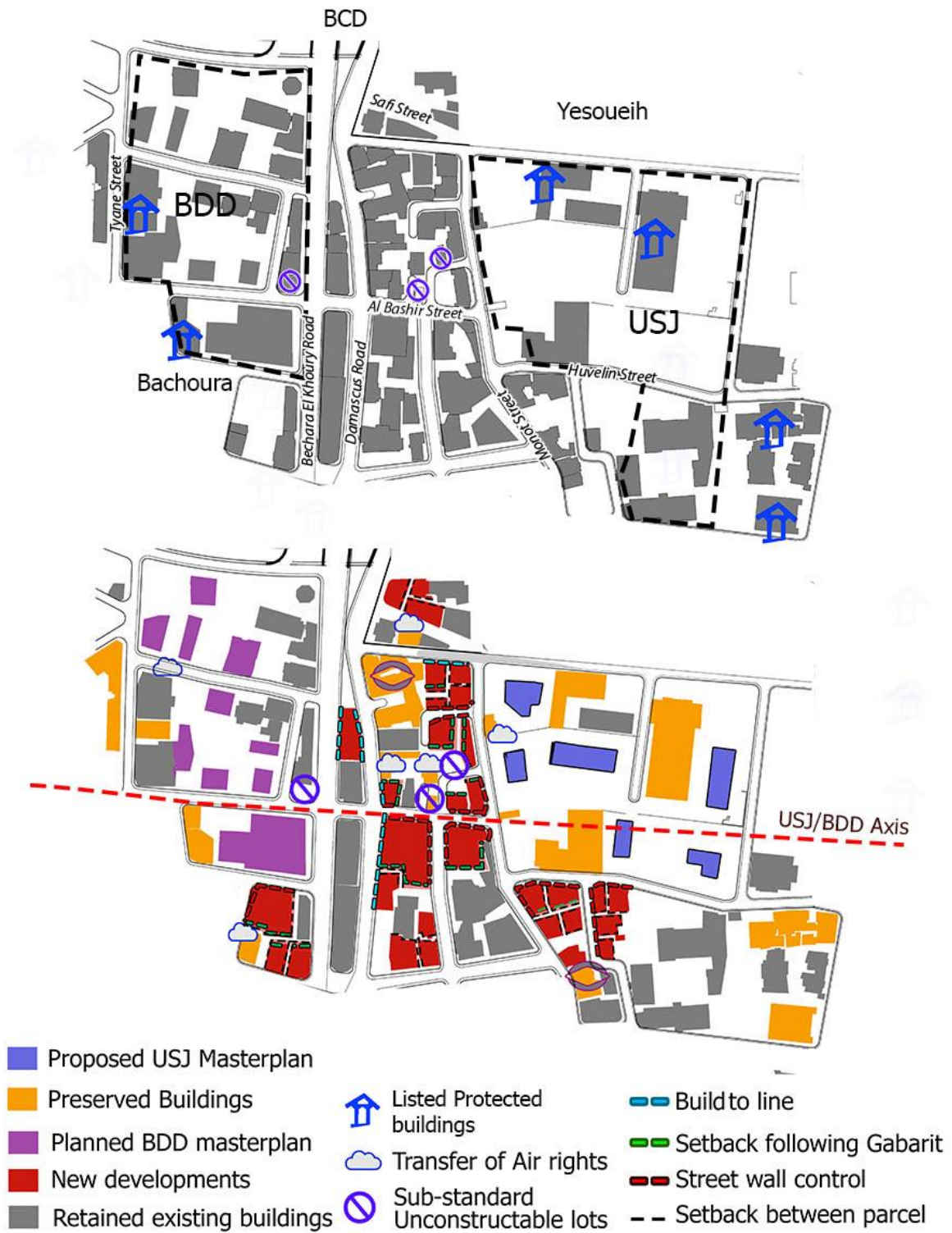


Figure 91. Zone B design – ‘Private development’ (Source: Author,2020)

Private development (*Figure 91*)

The Master Plan limits the building height within the USJ compound to 35 meters, which designates this zone as a medium-rise area. The regulated height respects the direct surrounding and reinforces USJ's identity while providing visual axes from within and outside the campus.

As for the building infill typologies, typology A2 and B2 (Recessed ground floor and terrace building following 'build to line') are located on the inner roads (Monot Street), and typology A1 and B1 buildings (Recessed ground floor and terrace building) are situated on the edges of main arteries (Damascus and Bechara El Khoury roads).

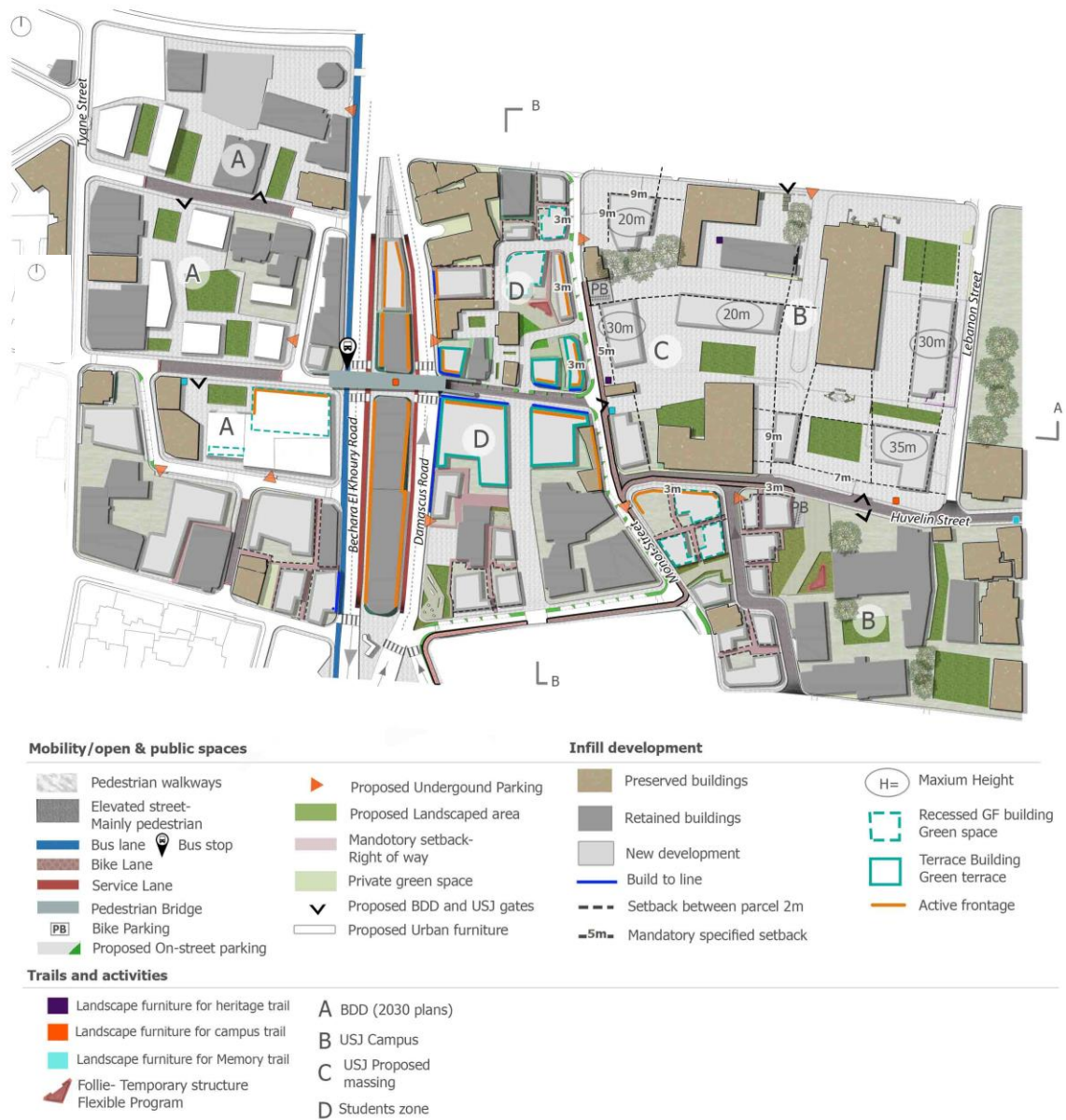


Figure 92. Urban Design plan of Zone B: The campus interface sector (Source: Author,2020)

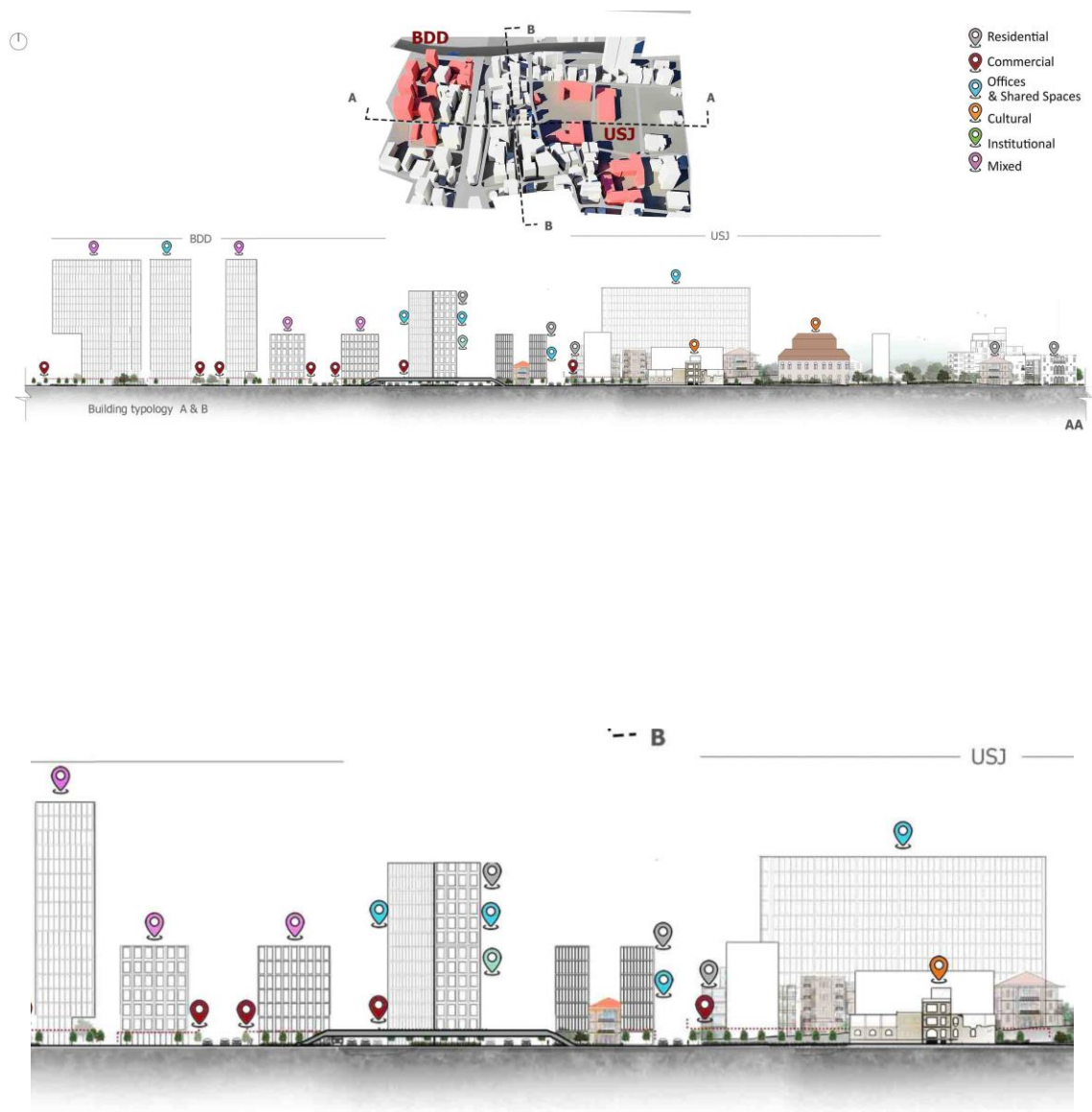


Figure 93. The Campus interface sector - Urban design guidelines (Source: Author,2020)

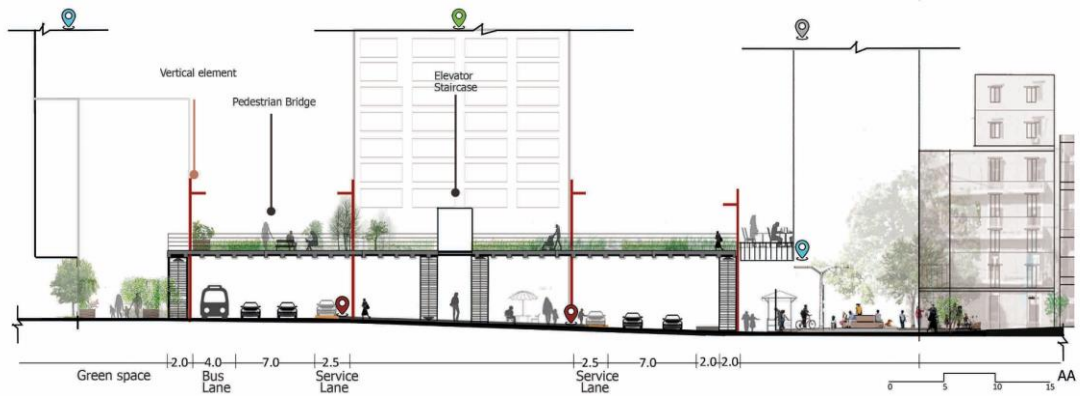


Figure 94. Section AA across Al Bashir street- The Campus interface sector - Urban design guidelines (Source: Author,2020)



Figure 95. Perspective view on Al Bashir street- Axis between USJ and BDD-The Campus interface sector - Urban design guidelines (Source: Author,2020)

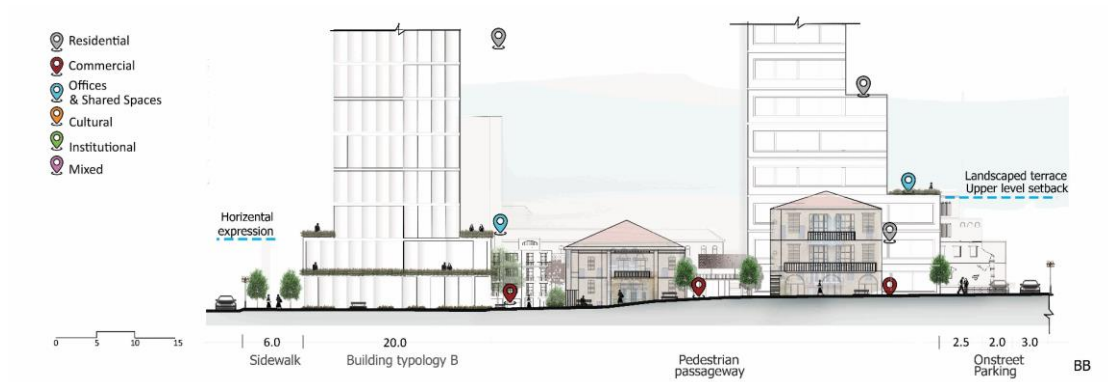


Figure 96. Section BB through Victor Hugo Street -The Campus Interface sector - Urban design guidelines (Source: Author,2020)



Figure 97. Perspective view on Monot Street-The Campus interface sector - Urban design guidelines (Source: Author,2020)

CHAPTER IV

Conclusion

Borders constantly change, and the need to acknowledge and accommodate them could become part of a reconciliation strategy, but not as a trial for integration, rather an attempt at being responsive to the social conditions of the time.

Typical of post-conflict cityscapes, is a vain attempt at healing and sanitizing the urban fabric with the aim of wiping-out and concealing memories of division. Cities such as Berlin, Nicosia, and Belfast articulated a set of urban design strategies in an effort to re-stitch the city. However, the lessons learned from those cities are not fully applicable in the case of Beirut because the city has witnessed a shift in its urban fabric. The rapid urbanization and post-war reconstruction plans transformed the city from a divided to a fragmented city, which pushed planners and designers to responsively envision spaces that are flexible and adaptable to the needs of communities. This approach challenged urban design to shift from a normative to an inclusive process while recognizing the complexity and layers of post-conflict and re-structured urban landscapes.

The four proposed plans for Beirut's Green Line had different approaches, some aimed for integration while others aimed for separation, or even both. This thesis dealt with the Green line as a dividing zone between USJ and BDD, expanding on both sides to encompass both dynamics. The project is an elaboration of the Liaison Douce project, which aims at upgrading the public domain to anticipate development and secure public spaces to the residents. This raises new design strategies that could transform the dividing line into a resilient interface in response to the surrounding dynamics, thus, tackling both the divided and fragmented aspect of the Southern gateways of BCD. Both

USJ and BDD would act as significant catalysts that have a role in instigating creative industries as a way to transfer the knowledge economy from real estate into a highly innovative knowledge based one for young people. Nevertheless, the political layer on the western border zone might posit issues in the implementation of the project, and the repercussion of such developments might trigger social stratification and gentrification, which might push away local businesses. However, the pericentral location of this site put the area at risk for further development. Still, with the correct tools of planning, certain structures can be safeguarded for adaptive re-use, thus preserving part of the historical layer.

While the field of urban design cannot solve issues of borders, it perceives their complexity as a dynamic structure which can be turned into neutral ground for integration and segregation, while being responsive to the realities of their district's context. It becomes a tool independent from the political complexity of a site as a starting point in spatial intervention to improve the public domain. Thus, interfaces become spaces of encounter and exchanges, which could foster social cohesion and economic growth that can rebuild a national and pluralistic identity.

This thesis concludes with an opening to a potential implementation strategy with the establishment of an efficient body of stakeholders. As seen from previous international and local case studies, such projects require the involvement of the municipality along with neighborhood initiatives, which suggests that a neighborhood masterplan is preferable to that of a zoning masterplan to. This implies the involvement of community agencies similar to that of the American University of Beirut's Neighborhood Initiative, for the case of the Saint Joseph University. Finally, mediation was proposed as a mean to create a body of stakeholders, since the existing stakeholders

are limited in number and have power status, this process would allow for negotiation between the public and the private to implement short term schemes for the upgrading of the public domain.

Yet, the formulated strategies are introductory and can be further investigated according to the complexity of new socio-economic dynamics. This questions the concept of resilience, and what it really means, as well as till which extent it can be pushed and what new strategies can be implemented to respond to the uncertainties of edges. As the edge of today might not be the edge of tomorrow.

APPENDIX

A. Initial intervention (Planning & Design workshop)

The initial intervention was conducted as part of the urban design and planning workshop titled “Planning for Resilience: Decoding and Recoding Beirut’s Spatial Patterns of Fragmentation”, fall semester 2019. The workshop revolved around the main theme of ‘planning and design for resilience’ with an emphasis on border zones as areas of both integration and segregation. Accordingly, the goals and objectives were set as follows (*Figure 98*):

Goals

- To Investigate the change in the identity of the border zone from 1990 until now, and to assess its current spatial and development dynamics.
- To formulate a set of resilient policies and urban design interventions related to connectivity, legibility, and imageability as defined in chapter 2.

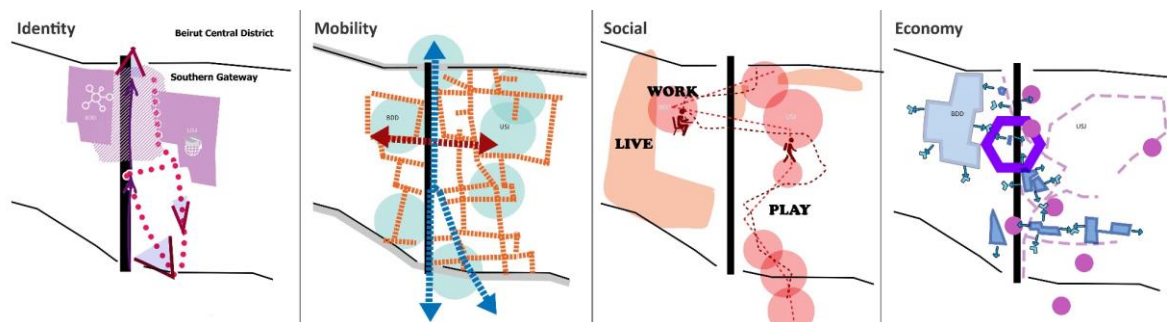


Figure 98. Goals and objectives (Source: Planning and design workshop team, 2019)

Objective

- To reinforce the identity of the study area as a gateway to downtown and as a campus interface by:

- By preserving and encouraging the mix of uses between residential, commercial, entertainment, and campus-related functions.
- By enhancing the distinctive urban and architectural character, street frontages and urban fabric of the Yesouieh district pertaining to the colonial and modernist periods.
- By improving the legibility of the border zones in terms of landmarks, pathways, and hierarchy of nodes and open spaces.
- To enhance the vehicular and pedestrian mobility and permeability between the two border zones of Yesouieh and Bachoura
 - To Upgrade the quality of the public domain and streetscapes
 - To devise a set of development guidelines, policies, and implementation mechanisms for the short, medium, and long terms.

The workshop proceeded in five stages:

- Stage one: Definition of the study area boundaries.
- Stage two: Investigation of the historical and spatial development of the study area mainly during the postwar period extending from 1990 until now
- Stage three: Appraisal of the study area's identity, permeability, development dynamics, leading to a susceptibility to change study.
- Stage four: Stakeholder and SWOT analysis identifying strengths, weaknesses, opportunities, and constraints on the short, medium and long term;

- Stage five: Development of urban design and planning strategies of intervention.

The preliminary masterplan defines a new density scheme, which respects the existing urban fabric (*Figure 99*). According to the susceptibility to change study, an approach that revolves around the retaining of existing buildings was developed, which classifies them into two categories: buildings preserved for their historical value and buildings that have a low susceptibility to change.



Mobility scheme

- Pedestrian walkways and sidewalks
- Service lane (low speed)
- Pedestrian/car streets

Open spaces scheme

- Public open spaces
- Private open spaces

Plan Markings

- Prohibited vehicular access to plots
- Limited vehicular access to plots

Development scheme

- New developments- High-rise/Medium rise
- New developments-Medium height
- New developments-Low rise
- Build to line
- Retained Buildings (Adaptive reuse)
- Retained Buildings (Existing New development)
- 25 Maximum height

Figure 99. Preliminary Masterplan (Source: Planning and design workshop team, 2019)

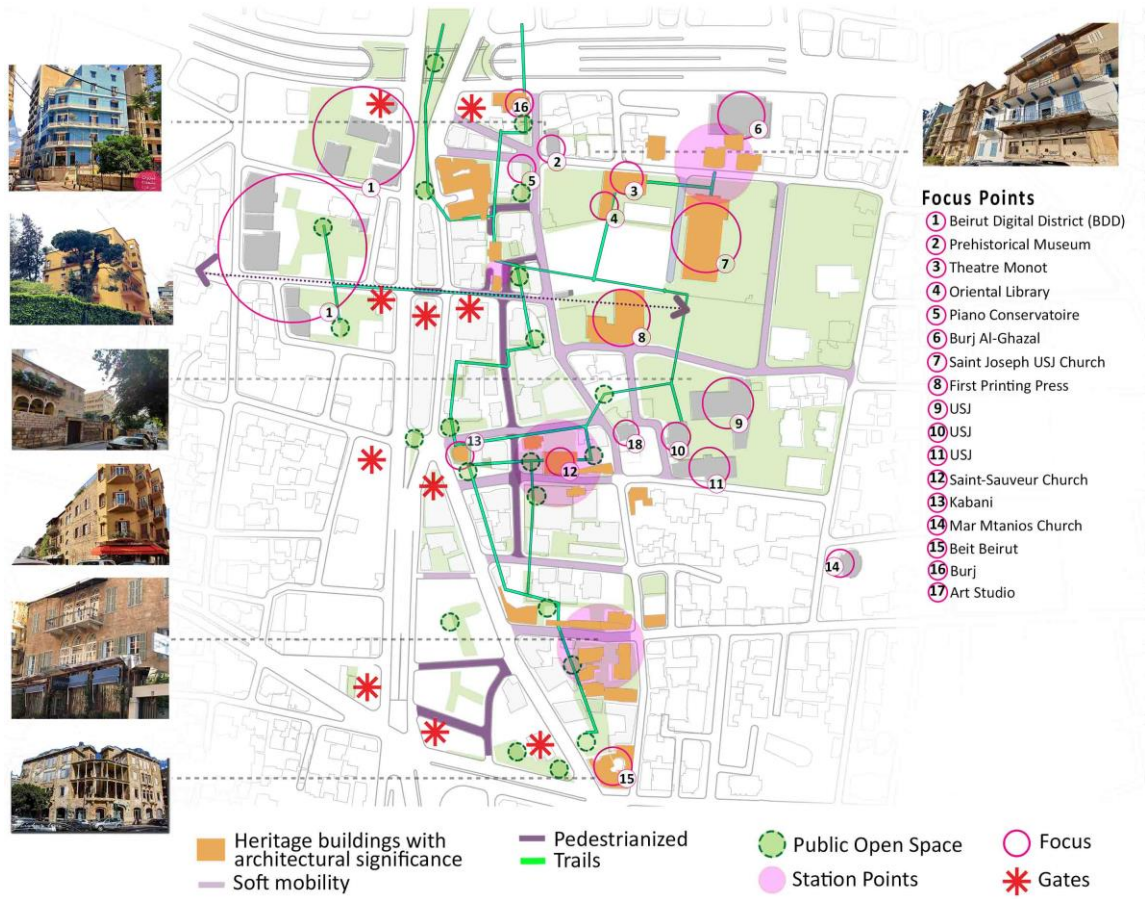
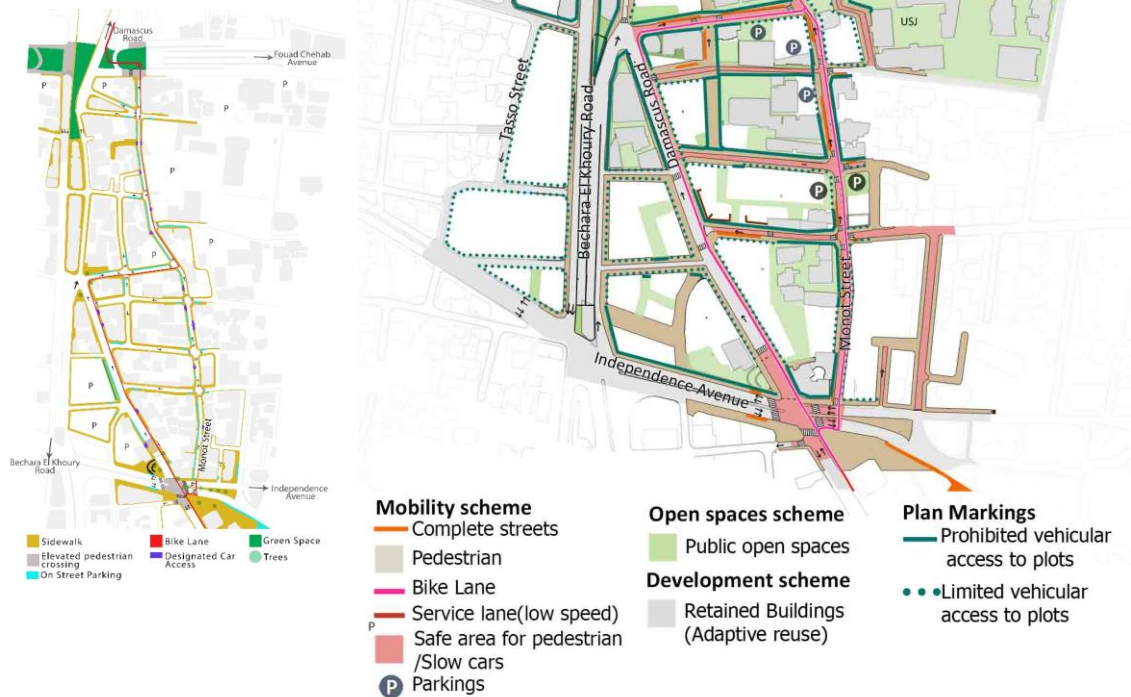


Figure 100. Historical and cultural trails (Source: Planning and design workshop team, 2019)

The preserved buildings would work as focus points that can either be nodes or station points, where some can be re-purposed with for cultural uses, to form a historical townscape. The aim is to connect them through a heritage trail that caters to both the residents and the students(*Figure 100*).

Figure 101. Mobility scheme (Source: Planning and design workshop team, based on Liaison Douce study 2019)



The mobility scheme was built on the project of “Liaison Douce”, which incorporates bike lanes, the partial pedestrianization of the Green Line, and a designed streetscape for Monot Street. We further added the concept of superblocks (similar to the case of Barcelona), through which we pedestrianized the vertical roads and created a loop system, where bike lanes, on-street parking, and service lanes would be located (Figure 101).

The land-use scheme recommended commercial and shared spaces on the ground floor level, and co-working spaces and dorms on the top floors, in order to cater to the students' needs. Bringing in the creative class would establish the area as a city-scale knowledge hub, hence, creating and reinforcing the Live-Work-Play agenda (Figure 102).

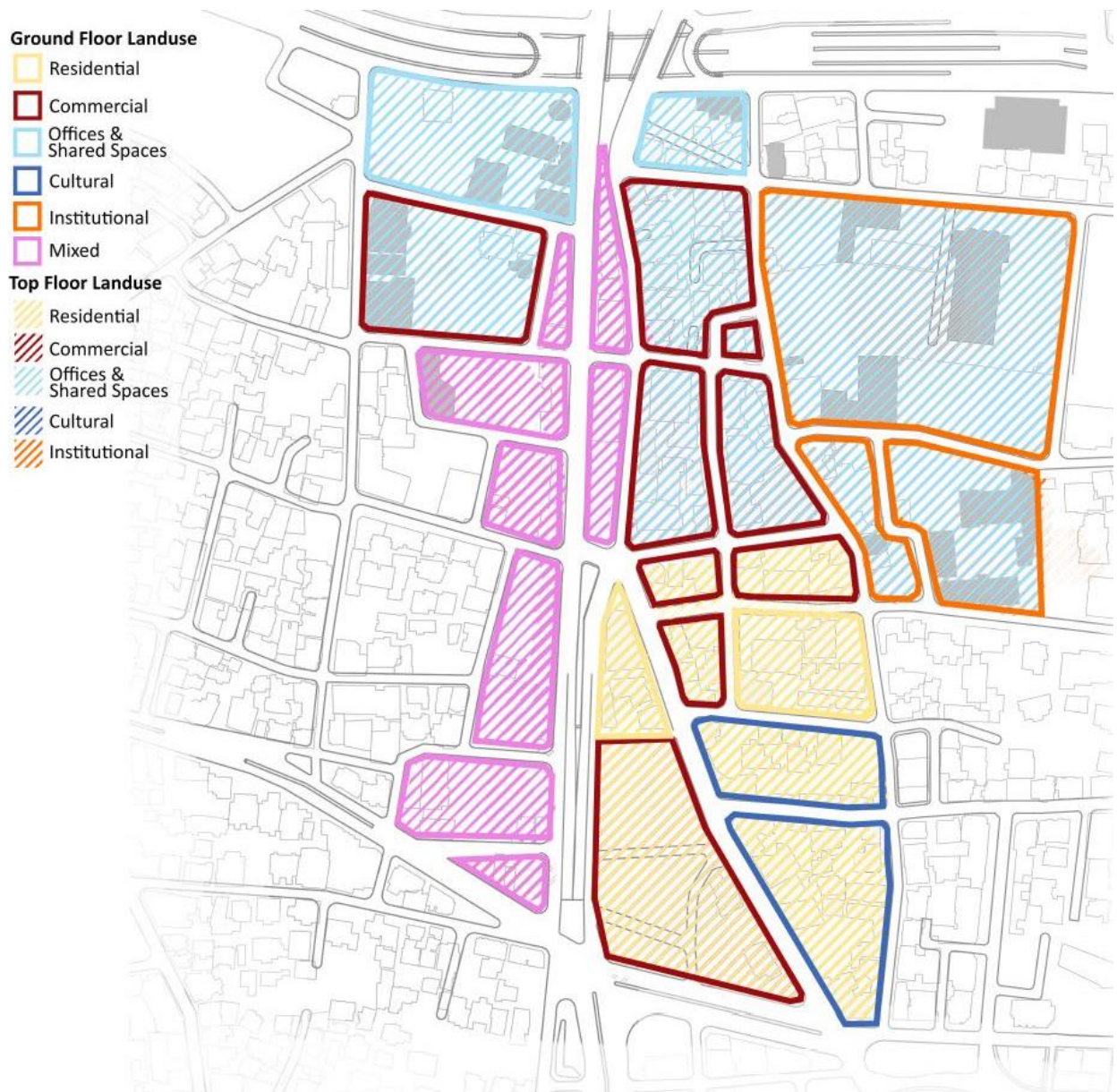


Figure 102. Preferred Land-use (Source: Planning and design workshop team, 2019)

Our framework focused on dividing the study areas into multiple sub-zones, while assigning each with new regulations, including street wall control, build to line, right of ways, reparceling, and height restriction. The below figure BDD/ USJ campus interface presents further details such as new pedestrian crossings, underground parkings entrance, and active frontages. Moreover, the design of the building envelopes follows a terrace building typology, where elevated terraces would frame the axis between USJ and BDD (*Figure 103*).



Figure 103. Campus interface detailed masterplan (Source: Planning and design workshop team, 2019)

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Physical Artifact:

Maps from USJ library and Jesuits Monastery, showing the University and it's surrounding over time

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