

AMERICAN UNIVERSITY OF BEIRUT

PRIVATELY OWNED PUBLIC SPACES: ALTERNATIVE
CATALYST FOR PUBLIC LIFE IN CITIES
THE CASE OF VERDUN STREET IN BEIRUT

by
MARIAM MOHAMAD HAMIEH

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submitted in partial fulfillment of the requirements
for the degree of Master in Urban Design
to the Department of Architecture and Design
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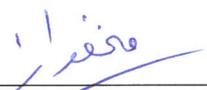
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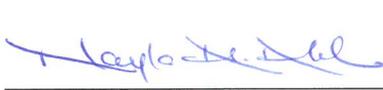
Approved by:



Dr. Mona Fawaz, Professor
Department of Architecture and Design

May 2nd, 2019

Advisor

 on behalf of Dr. Robert Saliba / May 6th, 2019.

Dr. Robert Saliba, Professor
Department of Architecture and Design

Member of Committee



Ms. Nayla Al Akl, Assistant Professor
Department of Landscape Design and Ecosystem Management

May 6th, 2019.

Member of Committee

Date of thesis/dissertation defense: April, 24, 2019

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AN ABSTRACT OF THE THESIS OF

Mariam Mohamad Hamieh for Master of Urban Design
Major: Urban Design

Title: Privately Owned Public Spaces: Alternative Catalyst for Public Life in Cities
The Case of Verdun Street in Beirut.

Urban designers concur that well designed and successful open spaces such as city streets, plazas, and gardens are an important element of any sustainable city and its life. Over the past decades, the process of privatization of public spaces has introduced new categories of public spaces, “privately owned open spaces”, meaning spaces that have open/ shared use while being owned and managed by private enterprises. Beirut has undoubtedly followed this trend, triggering several urban challenges particularly in the division of publicly and privately held spaces, their organization, cleanliness, accessibility, and uses.

In order to explore these changes and reflect on the urban design strategy that can best respond to the imperative of creating successful open spaces in Beirut, this thesis takes Verdun street (Beirut) as a case study. This once residential neighborhood has become Beirut’s main mall artery. Since 1990, at least 10 malls have opened along this street, each with a different configuration of open spaces to support its activities. Verdun street that was once pedestrian friendly with active commercial shops along the street, has now become a through traffic road due to the opening of large scale high end malls that are introverted and do not cohabitate evenly with the streetscape.

The thesis first investigates the quality and usage of all open spaces along the artery, including streets, sidewalks, open spaces provided by shopping malls and public spaces. The thesis identifies the criteria of a publicly accessible open space based on the literature and compares it to perception of people of a publicly accessible open space. The aim is to transfer the quality guidelines appreciated by users in privately owned public spaces to the public domain in order for this pedestrian environment to provide a quality connective network that will encourage people to use the different quasi-public spaces around and the sidewalk itself. In addition, the thesis derives guidelines for future large developments along Verdun street.

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CHAPTER I

INTRODUCTION

A. The importance of publicly accessible open spaces

Well designed and successful open spaces such as city streets, plazas, and gardens are an important element of any sustainable city and its life (Nemeth, 2009; Gehl, 2013). In urban environments, open spaces have proven to act as catalysts for people's social interaction: they provide a pleasant space to walk, hang out and socialize, they encourage mixity among members of different social groups (e.g. income groups, racial groups, sectarian), and they strengthen the feeling of belonging among their users, encouraging them to invest in their shared living spaces (Nemeth, 2009; Carmona et al., 2012; Gehl, 2013). Open spaces also facilitate physical activity, consequently promoting healthy living (Nemeth, 2009). Furthermore, open spaces play a vital role in the economic life of communities: they encourage recreational services and generate indirect positive economic externalities for the spaces surrounding them (Madanipour, 2003; Gehl, 2013). Indeed, open spaces increase the economic value of the surrounding lots and help attract economic and real-estate investments. Yet what we mean by open space and what role such spaces can play in the city can differ considerably. Only a few decades ago, the term “open space” was used interchangeably with “public” space, denoting the certitude, once held, that open city spaces would be owned and managed by various levels of state authorities who act as the custodians of public space. This certitude has however vanished due to the process of

privatization of public spaces¹ (Carmona et al, 2012; Kohn, 2004), creating new categories of “privately owned open spaces”, meaning spaces that have open/ shared use while being owned and managed by private enterprises. Nowadays, cities are full of this hybrid type of open spaces that could be classified into two categories: non consumer spaces such as in the case of New York City where urban regulations have required developments to include such spaces (Kayden, 2000; Nemeth, 2009) and consumer-oriented open spaces that are typically provided by shopping malls to encourage potential clients to visit their spaces (Kohn, 2004, Zhang, 2017). Although public spaces and privately owned public spaces are both publicly accessible and act as spaces for social interaction, it is important to distinguish between these two types of open spaces since they differ significantly in their legal, social and economic dimensions.

Public space is commonly known as a shared inclusive place that is open and accessible to all people (Kohn, 2004; Carmona et al, 2012; Gehl, 2013). The term is widely used to denote spaces easily accessible to a wide variety of city dwellers with little restrictions on the functions. However Kohn (2004: p.5) notes that legally, the definition may be less permissive since public space is «*basically a private space owned by the government*» who has the right to allow, control, and/or prohibit citizens’ access to these spaces².

¹Privatization is not limited to changing ownership of public services. In the case of privately owned open spaces, «*The process of privatization is indirect; private ownership comes to predominate as commercial spaces such as shopping malls and theme parks gradually replace public spaces, such as town squares.*» (Kohn, 2004, p.3)

²Controlled or prohibited access and other restrictions set on «*Horsh Beirut*» are a clear example of Kohn's argument.

Privately owned public spaces are an open spaces, «*located on private property yet physically accessible to the public at large*» (Kayden, 2000: p.11). Non-consumerist open spaces are mainly plazas and arcades that are privately owned, but specified and protected by the law as common spaces for public use (Kayden, 2000; Kohn 2004). Conversely, consumer-oriented open spaces or as Kohn names «*social spaces*» are «*places that bring people together for the purpose of consumption*» such as shopping malls and cafes (Kohn, 2004, p. 9). These spaces are privately owned and privately managed, and the state does not have any power over these spaces.

Since the 1970s, the global rise of shopping malls as the main providers of consumer-oriented open spaces has changed the value of everyday practices. Social spaces where daily living takes place have become widely associated with consumption and leisure (Lefebvre, 1984). Consequently, many daily activities have moved indoor, away from streets and cities' public spaces, often in profit-driven entities (Carmona et al, 2012; Dovey, 2014). Beirut has undoubtedly followed the trend of privatization of public spaces, triggering several urban challenges particularly in the division of publicly and privately held spaces, their organization, cleanliness, accessibility, and uses (Fawaz et al, 2015). Until the 1990s, the main urban spaces in the city (e.g. Sanayeh Garden, Sahet el Bourj) were public squares and parks of the city. Today, many people associate public spaces with those managed by private companies such as real estate company Solidere in Beirut downtown, those owned and managed by private companies such as shopping malls, and even those spaces privately held yet associated with public practices such as Ramlet el Bayda.

What are the effects of private ownership on open spaces? How the design and management regulations controlling these spaces affect their use and values as open spaces? What, conversely, are their positive impacts? The academic position is far from clear.

On the one hand, numerous authors have decried the increasing commodification of public spaces and the reduction of their role as spaces of social mixity, so much so that Madanipour (2010) mourned how they «*have become a part of more impersonal and fragmented urban environments [...] a mere part of transportation network dominated by cars*» (p.238). Others have argued that the rising number of privately owned public spaces are restricting social interaction, limiting individual liberties, and excluding certain groups of the population from city space (Kohn, 2004; Nemeth, 2009). They have shown that in quasi-public public spaces, developers focus on commercial and leisure activity in order to maximize their revenue. Hence, accessing these spaces becomes conditioned by consumption, which in turn diminishes the social integration and the sense of openness, and increase the exclusivity.

On the other hand, several authors have argued that the presence of these spaces along the street enhances its activity, makes it more vibrant and increase the livability of the surrounding neighborhood (Kayden, 2000). They further showed that quasi-public spaces currently provided by shopping malls have sometimes succeeded in providing more attractive, pleasant and safer spaces than what public authorities and/or publicly owned open spaces have been able to secure in the past decade (Carmona et.al, 2012; Dovey, 2014).

It is challenging for planners and designers to intervene with the management regulations of privately owned open spaces, specifically quasi-public spaces in shopping malls due to their private ownership. Thus, it is highly debatable whether we can increase the inclusivity of these spaces or reclaim them as public spaces. Madanipour (2010) argues that the privatization of public spaces «in the name of safety and exclusivity» have led to the fragmentation of «*the urban society and space*» (p. 238). This contradicts with the success of privately owned open spaces that attract large number of users who consider these spaces to be places for daily life in cities. In this context, the challenge for planners and designers is, first, to integrate quasi-public spaces within the network of public spaces in cities. Second, to derive lessons from these successful privately owned open spaces to enhance the quality and role of the street as main public space and therefore improve the overall quality of the overall urban environment.

B. Research topic, question, and hypothesis.

My thesis responds to the challenge of balancing between public and private open spaces, particularly in contexts where publicly owned spaces are deficient and typically restricted to streets and their sidewalks. To this end, the thesis takes up the case study of the neighborhood of Verdun (Beirut) where this once residential neighborhood has become Beirut's main mall artery. Since 1990, at least 10 malls have opened along the street, each with a different configuration of open spaces to support its activities. Over the past two decades, Verdun street has gradually moved from a low-density residential street to a main thoroughfare with numerous open spaces that are often poorly used and not well integrated with the streetscape. Block scale commercial and mixed use developments in Verdun has,

indeed, negatively affected the streetscape, sucking up street retail businesses and pushing many stores to relocate inside the pristine interior of the mall while street stores are abandoned. Thus, Verdun Street suffers from the absence of an integrated mobility network linking the quasi-public spaces of malls with the connecting pedestrian environment. This is mainly due to:

- 1) The provision of multi-level parking structures encouraging the use of private cars.
- 2) The absence of public transportation
- 3) The vanishing retail frontages discouraging pedestrian activity and undermining the social/pedestrian function of Verdun street as both a neighborhood connector and a city-scale shopping strip.

In this context, the integration through planning and design becomes even more imperative. The thesis's main question is: How can we integrate, through a comprehensive urban design strategy, the quasi-public spaces of malls and their connecting network of public sidewalks and open spaces? More specifically, how can an urban design intervention accommodate and improve the quality of the vehicular and pedestrian environments along a congested urban thoroughfare serving concurrently as inter-district, inner-district and access road to the retail frontages and the multiple entrances to malls and mixed use complexes on its sides?

The thesis main hypothesis was: integrating privately owned public spaces with the network of public space (sidewalks) would enhance the street activity and strengthen the role of streets and their sidewalks as the main public space in the city. This would require

the urban design intervention to operate at three levels: (1) improve pedestrian accessibility to open spaces by intervening on the public/private interface to make privately owned open spaces more inviting, accessible and connected to the street, (2) intervene at the level of the urban block to improve the circulation from allocated parking spaces and (3) intervene on both vehicular and pedestrian networks to improve streets as comfortable and safe places for pedestrians, which in turn will revive the street commercially and regenerate it.

C. Significance

Beirut's few public spaces are neglected and fail to play their expected social role in the city. This research is important because it sees quasi-public spaces as an opportunity to enhance the quality of public life in the city and seeks to capitalize on this asset to improve the city's livability. The case study, Verdun street, is particularly important because it was already identified as part of Beirut's Plan Vert as a critical artery to be pedestrianized. In addition, the establishment of ABC Mall in Verdun is negatively affected the pedestrian and commercial activity along the artery by encouraging an introverted shopping practice in the mall that shifted activities away from the street. Moreover, Verdun Street has the potential to introduce a pedestrian friendly street and act as an active linear open space that will serve as a breathing space for the neighborhood and the city and be a model of urban walkability and social mixity.

The research is further valuable for its ability to inform us about the changing perception of publicly accessible spaces and how various users experience and perceive the city through its privately owned open spaces, a dimension missing in urban design research in Lebanon's context.

D. Methodology

My methodology rested on a cyclical process in which I began by identifying perceptions and users of Verdun in order to derive criteria for what users consider “a good public space”. To this end, I followed two parallel tracks: I derived the criteria of publicly accessible open spaces from the literature and I identified people’s perception of publicly open spaces based on interviews I conducted with street users and open spaces users in Verdun. The most important (and surprising) lesson retained from interviews is that users (as opposed to designers) make no difference between quasi-public space and public space as long as the criteria of «convenience» and «security» are met. This tells us that the private sector should not be blamed for the inefficiency of the public sector in providing good quality and successful «public» spaces. In addition, the urban analysis showed that, in specific contexts, streets could not always prioritize pedestrians but could be designed and managed to accommodate, equally, for the needs of both: car users and pedestrians. Thus, open space network and mobility network should be conceived and designed in relation to each other at the street level and, most importantly, at the national level. Based on these findings, I articulated a set of recommendations on the basis of which I developed two pilot design interventions.

1. Methodology for analyzing Verdun Street

In order to develop a methodology for evaluating Verdun street and analyzing open spaces, I have reviewed multiple case studies and framework.

To evaluate the street, I analyzed two main layers: Street Network (Mobility) and Open Spaces. Each layer was assessed based on two criteria. The first criteria is framed by

the literature review of case studies taken in similar contexts. The second is based on users' perceptions, as recorded in 20 interviews I conducted with open space users and 17 interviews I conducted with street users. [See figure 1]

The comparison between the literature review and people's perception allowed me to develop a set of criteria to assess the quality of the public infrastructure and guide a design intervention to upgrade it in order to formulate a better understanding of people's perception of open spaces and their experience of walking along Verdun street, I conducted interviews with street users and open space users. To reach a sample size, I followed a snowballing technique that relies on conducting interviews until answers are repetitive and a full scheme is clear. In total 20 interviews were conducted among open space users, and 17 were conducted upon street users. The interviews included users of various open spaces (ABC mall, Verdun 730, Verdun 732, Concorde) and the total number of users interviewed in each open space varies according to the number of users present in each open space. The snowballing technique respected IRB regulations. No personal information were taken, and I made sure to interview participants in private settings where no one can overhear the conversation. The study has no direct risks on participants, they might have felt uncomfortable to talk about their experiences and perceptions. The data will be stored in a password computer that will be at AUB professor Fawaz office and will be destroyed only after 3 years.

After collecting data, I evaluated the street as a mobility network and I assessed the quality and management of each typology of open spaces. I profiled the activities happening in both: open spaces and street. I analyzed my observations of the actual practices happening along Verdun street and its open spaces in relation to the findings of

the interviews. I found that, in some cases, some of participants' answers of what, in their opinion, makes a great street or a great space contradicts with what they are actually attracted to in a place. Therefore, I didn't rely on the answers as they are but I compared it to the users' practices in order to formulate an accurate idea of people's perception.

Once I collected required data, I combined the findings of the literature review with the one of people's perception and developed criteria that guided my design intervention in Verdun.

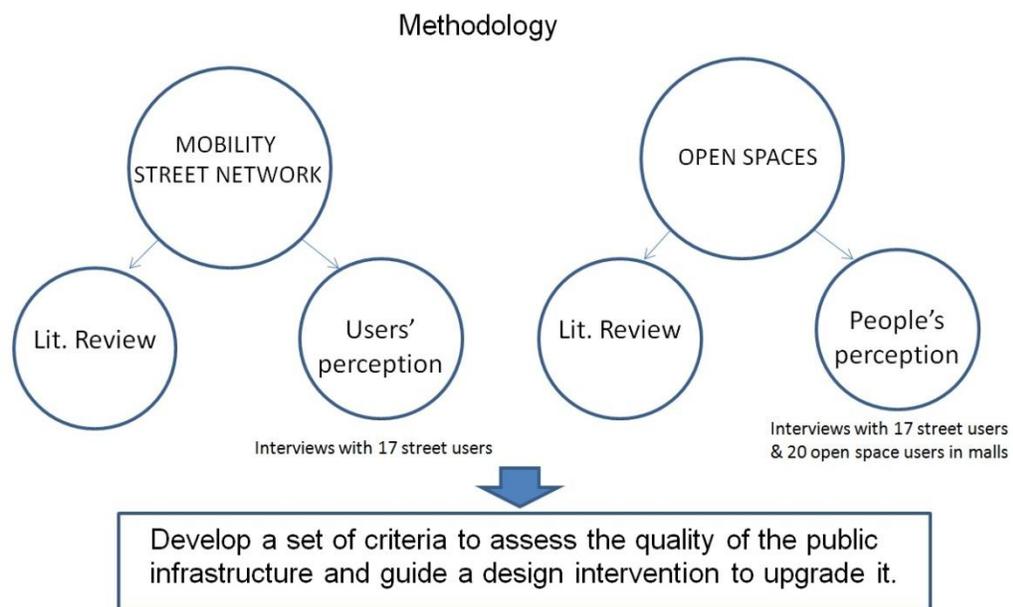


Figure 1: Methodology for analyzing Verdun Street (Author, 2019)

The literature review of the good criteria for the design of good spaces crosses two approaches: Varna and Tiesdell (2010) and Gehl (2013). I evaluate quasi-public spaces based on the five dimensions of the Star Model developed by Varna and Tiesdell (2010): ownership, control (management approaches), civility (maintenance and provision of basic facilities), physical configuration (design layout and spatial relationship with the street),

and animation (diversity of activities). However, as for Gehl (2013) identified four key attributes that make a great place: sociability, uses and activities, access and linkages and comfort and image. Furthermore, in several case studies (e.g. Chongqing and Seattle), Gehl explores the “city” and the “people” and he identifies the “quality criteria for a good city network”. The methodology and the evaluation criteria for analyzing each layer (street network and open spaces) is further explained in this chapter.

In sum, the methodology aimed at assessing the physical characteristics of the street and open spaces in Verdun and evaluate it in relation to the patterns of use and perception of its users in order to develop an appropriate design strategy that respond to the challenges specific to the context of Verdun.

2. Data Collection

The thesis process extended over a year and was conducted in several phases. The first phase focused on intensive scholarly literature review. The second phase prolonged over 3 months and it was upon conducting fieldwork in Verdun neighborhood, and more specifically, Verdun Street. The fieldwork included observations, mapping, and surveys with street users and open space users. Fieldwork observations were conducted during different times in the day and on several days (weekdays and weekends). The observations allowed me to understand the physical configuration of the street and more specifically the physical characteristics of roads, sidewalks, architectural layout of large commercial developments and the design quality of privately owned open spaces. In addition, through observations and photographing I was able to document spatial practices taking place in the

street, along the sidewalk, at the public/private interface and in the different typologies of open spaces.

CHAPTER II:

HISTORY AND TRANSFORMATION OF VERDUN: FROM A RESIDENTIAL AND CULTURAL HUB INTO A MALL ARTERY

Verdun Street, now officially renamed the «Rachid Karamé » Street after the assassination of the late Prime Minister, had historically been named after the Battle of Verdun in France during World War 1 –likely under the French Mandate. The street extends from Hamra all the way to the Unesco area, crossing through several neighborhoods. [See figure 3]

The street typically recognized as “Verdun” can be roughly divided into two sections: Dunant Street and Verdun Street. It extends from the intersection with Rome Street to the intersection with Saeb Salam Street. [See figure 3] The length of the street is approximately 1,346 meters, and the width is approximately 12 meters (excluding sidewalks width). The road width is not fixed, it varies in across sections narrowing down to 10 meters in some areas while widening up to 21 meters at large intersections.

This chapter provides a background for the neighborhood of Verdun. It begins by an introduction of the street in the 1960s when it was a residential and cultural hub. It outlines different phases of transformation of the street, the shift in the land use and the development of large commercial buildings along the street. Then it presents the street in its current situation as a mall artery. It is important to state these not only historical overview, but actually how they build the character of Verdun that differs from any traditional commercial street in Beirut.



Figure 2: Verdun Street Location in Beirut (<https://www.alamy.com/> & Author, 2019)

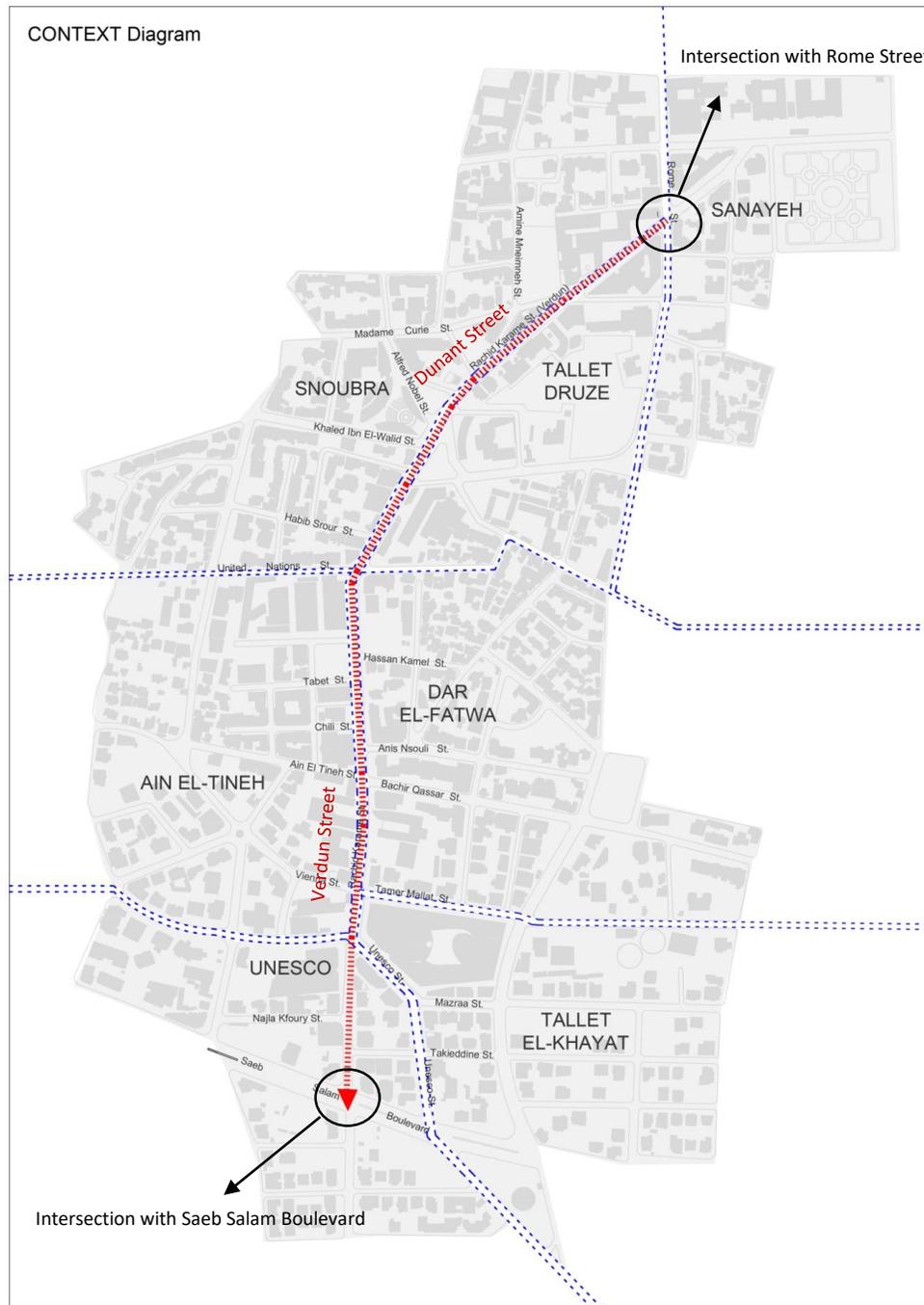


Figure 3: Verdun Street Context (Author 2019/Ref: Boudisseau 2001)

A. Early Development (1920-1960s): Verdun as a residential and cultural hub

The urbanization of Verdun dates back to the Ottoman era and it started particularly in the Northern part of the neighborhood, known today as Sanayeh. There, a public garden, a school, and a municipal hospital were the first institutions to be established along this street (Boudisseau, 2001). During the French Mandate, several military camps, a Druze cemetery, a hospital, and bourgeois villas also developed along the street. Later on, in the late 1930s, the Italian government also established two Italian schools, consecrating the institutional identity of the street.

As of 1950, the street received more institutional buildings, most notably a UN_UNRWA camp and UN-UNRWA center, a gendarmerie, and the French cultural center. During this period, additional schools were established in the southern section of the street such as Carmel Saint Joseph, Petit Lycée Français and Dominicaines de l'Annociation (Boudisseau, 2001). The establishment of these schools was followed by a real estate boom that resulted in the development of several residential buildings.

Gradually, Verdun became a luxurious residential neighborhood with a variety of residential villas and high-end buildings protected from the street by private gardens and fancy entrances. This development expanded to the perpendicular streets surrounding Verdun such as Kassarand Mallat Streets. [See figure 4]

VERDUN 1964

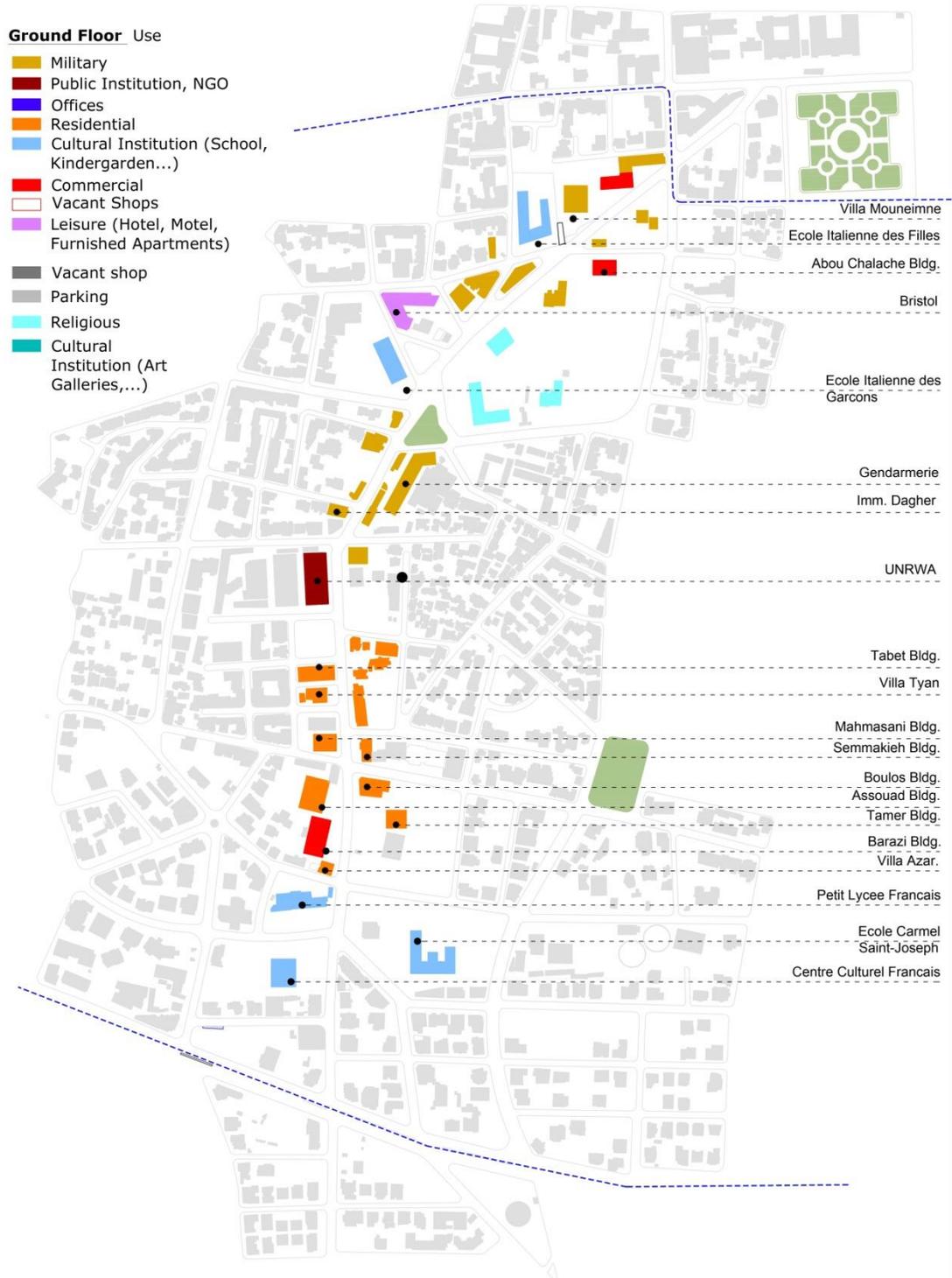


Figure 4: Ground Floor Use 1964 (Author, 2019; Ref: Boudisseau 2001)

B. Evolution of commercial activity in Verdun

Verdun's first commercial activity can be traced back to the 1960s. At the time, commerce was limited to a few scattered clothing shops and art galleries. The latter were located in the Northern section of Verdun, whereas first clothing shops opened in the Ground Floor of Barazi Bldg., now known as the Assaf Center³. It was only over a decade later that more shopping activities were introduced the construction of the Concord building in 1972⁴, a complex that included a cinema and several office volumes. Besides introducing the concept of commercial centers to Verdun, these shopping centers generated a new typology of public space, Consumerist Privately Owned Public Space: open spaces held by the mall private owners yet inviting public uses. At that time, the only two public spaces were located in the vicinity of Verdun, the Sanayeh Garden and the Mufti Hassan Khaled Garden. These spaces were therefore welcome, particularly because they integrated consumption activities, embedding open spaces in daily life.

By the mid-1970s, Boudisseau (2001) recounts that commercial activities were developing faster in Beirut. Hence, in 1974, George Faddoul inaugurated the Christian Dior boutique in the Waqf Druze Bldg. Gradually, the street became a desirable location for luxury stores. This trend was facilitated by the outbreak of the Lebanese civil war (1975) that forced many activities out of the dense commercial historical core. While Hamra attracted more popular activities, Verdun attracted higher end shopping. These included high-end food shopping with two well-known supermarkets (e.g. Goodies, Mandarine), as

³It was bought later by the Lebanese investor AnisAssaf, who reamed the building to carry his name. The building was designed by the Lebanese architect Joseph Karam, a well-known modernist.

⁴Concord was built on Villa Mneimneh's parcel by widely acclaimed Lebanese modern architect Pierre Nehmeh.

well as bank branches (more than 15 branches between 1975 and 1978), in addition to a large sport complex.⁵ Of interest to this research, two shopping centers were developed along the street: the Assaf Center (Barazi Building) in the 1960s and the Concorde Center in 1972, both of which introduced a new typology of public space in this area of the city: the privately owned public spaces (POPS).⁶

It wasn't till the 1990s that the street consolidated its character as a luxurious commercial destination attracting mall developers on the local, national and regional level as well as a dozen privately held open spaces, a unique typology in today's Beirut. At the time, several residential villas, convents, and schools were demolished and replaced by large residential, commercial and office buildings. Developers made use of dunes and large lots to build large-scale architectural interventions. For instance, Verdun 2000 replaced villa Tyan, and Verdun 730 was built on Assouad building's parcel. Villas Boulos and Tamer were demolished and replaced by Ibrahim building and Verdun 732. Villa Azar was replaced by a residential building with shops on the ground floor. Even the institutional buildings in Verdun were targeted by demolition and replaced by high-end commercial and residential activities: This includes the two Italian schools, Carmel Saint Joseph, the Centre Culturel Français, UNRWA, and the Nun's convent. Parcels were left empty or were used as parking lots, and the UNRWA center was replaced by Dunes. Nevertheless, the street has preserved its residential character even after the demolition of old residential buildings

⁵ A full survey is present in Boudisseau (2001).

⁶ It is worth pointing out that the typology was first introduced elsewhere in Beirut, with the Azariyeh building in Beirut downtown in the 1950s and later, in the 1960s, in Hamra where numerous shopping center introduced these kind of spaces. For more, see George Arbid's dissertation on Beirut's modern buildings at Harvard University.

and villas between 1950 and 2000, since most of the new mixed use projects incorporated residential apartments. [See figure 5]

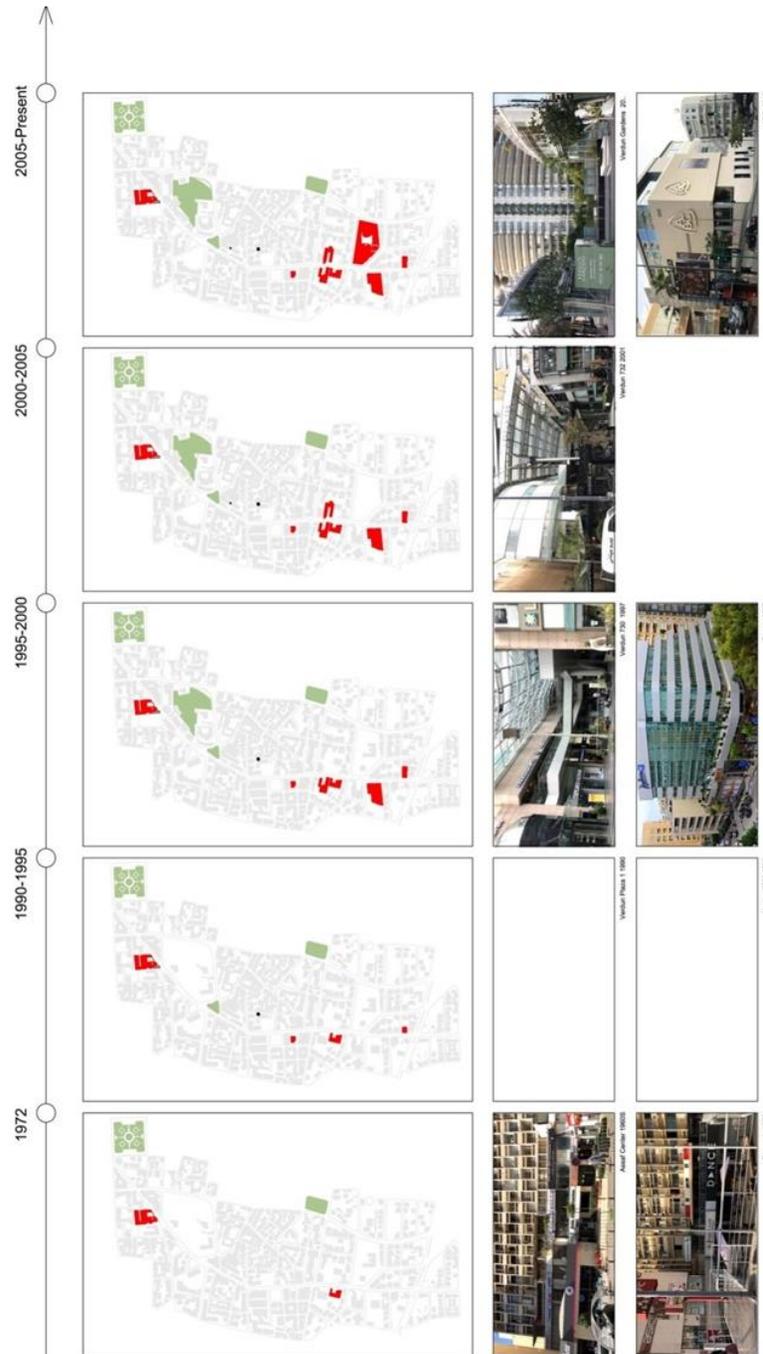


Figure 5: Commercial centers development timeline (Author 2019)

C. Verdun a mall artery

When analyzing the evolution of ground floor uses along Verdun Street, back in the 1960s up till now, it can be seen that Verdun was never similar to old traditional commercial streets found in Beirut such as Hamra, Mar Elias and others. As discussed above, only few commercial shops were operating on the ground floor of a number of residential and office buildings. The commercial activity in Verdun gained significance after 1990, with the construction of several large commercial centers along the artery, giving the street its unique identity. Consequently, Verdun Street has progressively transformed from a residential, quiet street to an active commercial artery, a mall artery with street level merchants including a mix of retail stores, restaurants, cultural and financial services [See figure 6 and figure 7] .

Today, the urban fabric of Verdun is disjointed: It consists of a succession of neglected and inactive public areas (street, sidewalks, military barracks, etc.) and active privately owned public spaces (malls) accessed mainly by cars. As a result, the street is best practiced “by drivers” who move from complex to complex driving, rather than walking the sidewalks.

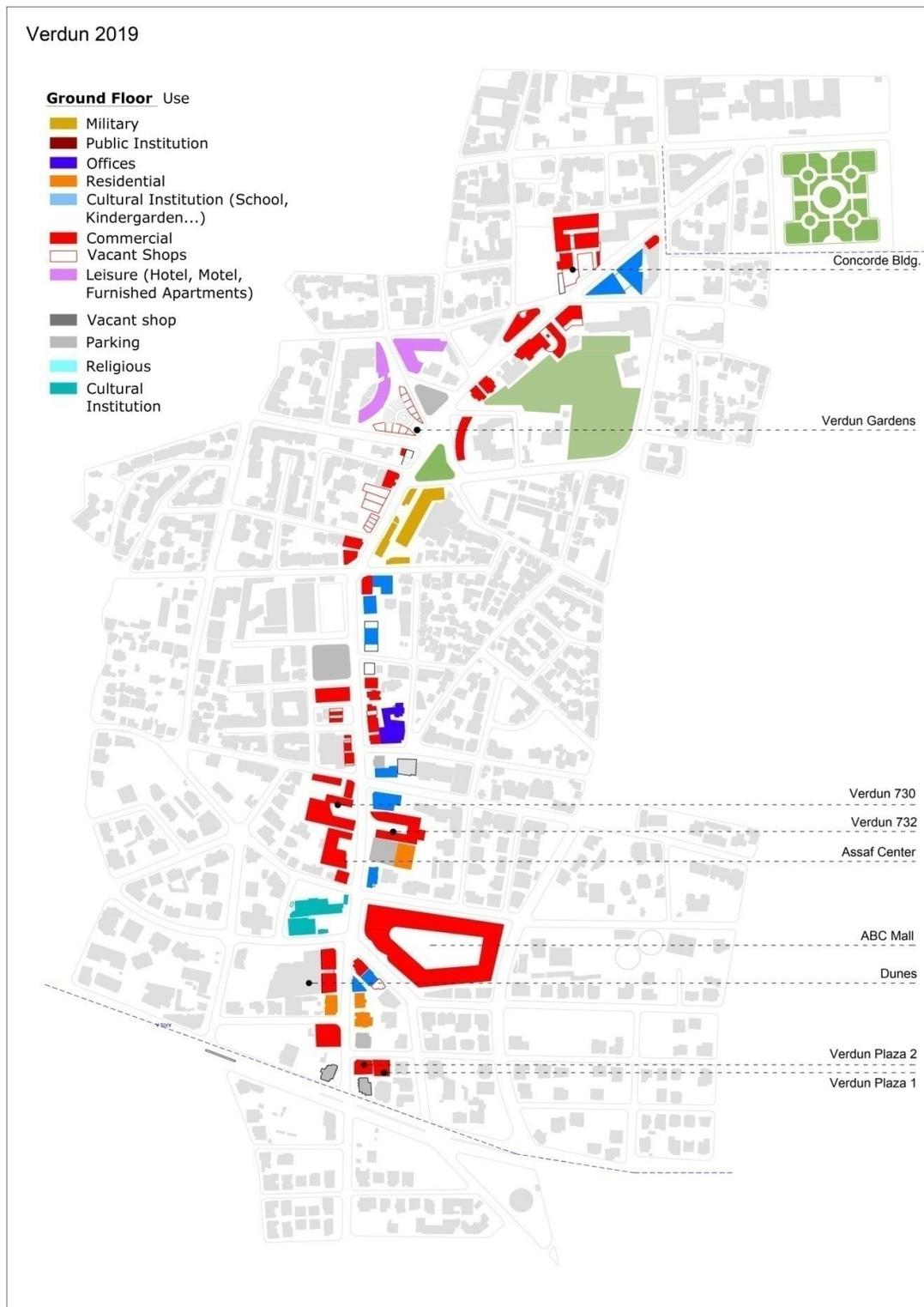


Figure 6: Ground Floor Use, mapped in Winter 2019 (Author).

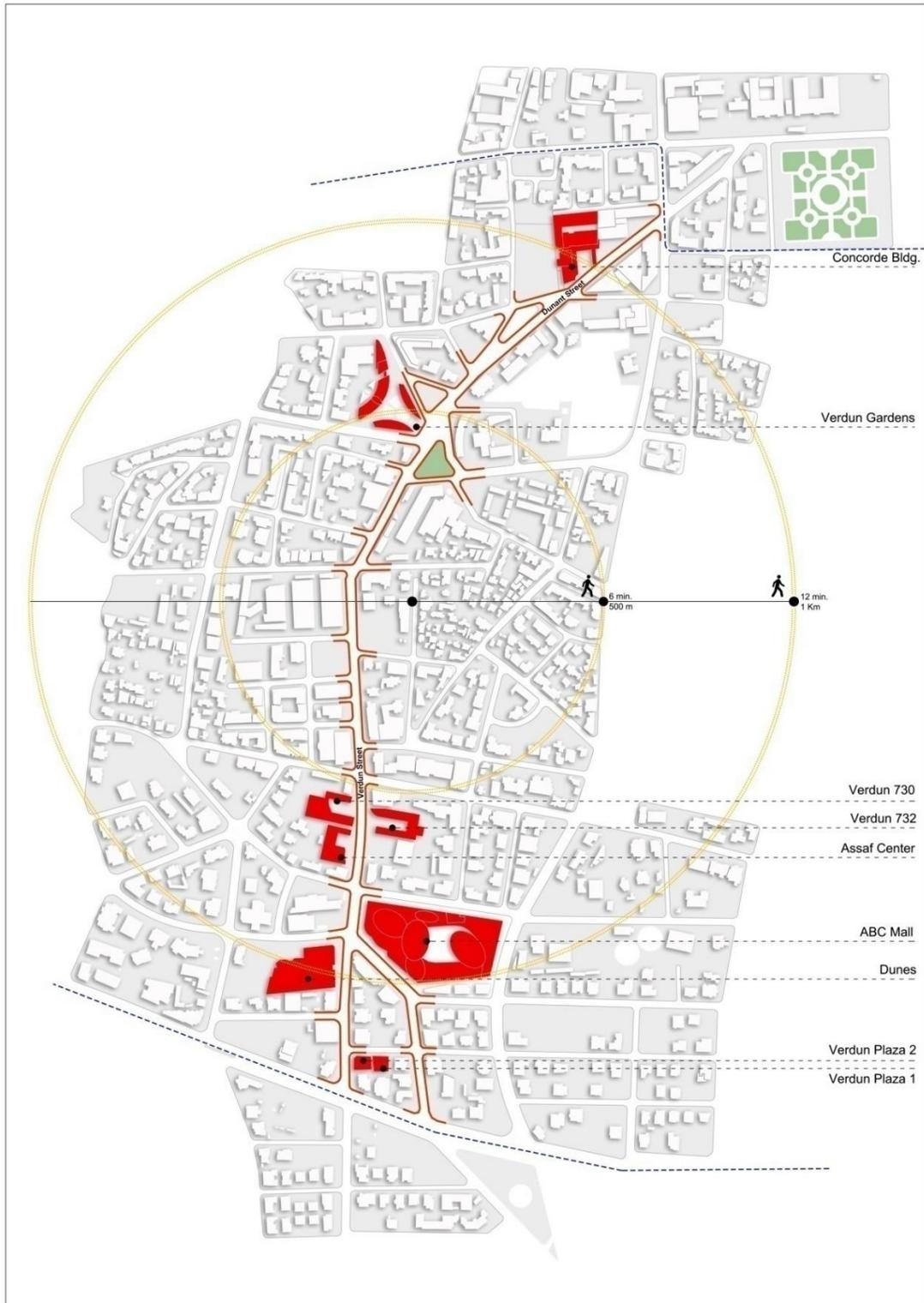


Figure 7: Malls along Verdun Street mapped in Winter 2019 (Author)

The design of shopping malls in Verdun Street is conducted individually, at the scale of the building block rather than the street. Each center was conceived, designed, and developed as a free-standing object, outside an integrated urban design or commercial strategy. Shopping spaces are vertical, closed and air-conditioned. The semi-closed architectural layout of buildings tactically encourages users to turn their back to the city and enjoy the exclusiveness provided by these spaces. The different typologies of buildings has created various typologies of open spaces: semi-closed and introverted open space. These typologies are further analyzed later. However, all open spaces have the form of a dead end and do not facilitate the movement from one section of the street to another, which in turn interrupts the consistency and continuity of the street. As a result, each mall brings a new set of challenges and opportunities: It attracts businesses to relocate from one section of the street to another, provides new spaces, and challenges old ones.

The latest example of such developments is the ABC mall. Promoted as a «community mall» and effectively providing the largest publicly accessible garden in the neighborhood, the mall has nonetheless brought a massive new scale to the neighborhood that has sucked up businesses from nearby malls and off the street and further encouraged a practice of the neighborhood through vehicular mobility. Since the opening of ABC, many individual street stores have relocated and the street is increasingly losing its economic vibrancy and pedestrian activity. The causes of their closure may be more complicated than ABC's opening, given the economic downturn. One should also look towards the overall layout, design and traffic management of Verdun Street which is not desirable for

shopping. Yet the presence of commercial centers with wide and varied commercial and recreational offerings, particularly ABC, cannot be ignored.

In sum, shopping malls in Verdun do not function equally; certain commercial centers are more active than others, some of them are empty and inactive due to several factors further developed in Chapter III. Though, what is common is the aim of all these shopping malls that goes far beyond fulfilling consumption needs to fulfill community needs and to provide a new lifestyle concept. Whether they succeeded or not, malls in Verdun has definitely changed the street urban layout, disrupted pedestrian activity and created an unplanned and hybrid public/private interface. In addition, they have contributed in making the street more vehicle than pedestrian friendly. Even if the transformation or better saying the «formation» of the street as an artery of shopping malls has become one of the street's fundamental patterns; there is no doubt that the absence of a holistic vision or design strategy is the reason why the street failed to adapt to ongoing urban and economic challenges.

D. Verdun street: a thoroughfare.

Verdun Street have been transformed over past two decades into a one-way street with four through lanes to accommodate for increasing numbers of cars commuting through this artery. The intervention was done within the context of facilitating through traffic in the city, at the expense of the local mobility which until then was mainly pedestrianized. The road has been widened and made for rapid traffic, on-street parking have been prevented, making the road a rapid thoroughfare. This has somehow facilitated vehicular mobility, encouraging higher number of people to commute by cars. Yet it has not solved

the traffic issue in Verdun; traffic congestion during peak periods continues to remain a serious problem. Thus, attracting more cars has increased the challenges on pedestrian mobility. Sidewalks are being neglected and are given leftover spaces, which explains the poor quality of pedestrian zones along the street.

E. Conclusion

Over the past few decades, Verdun street has transformed from a residential street into a mall artery with different typologies of commercial buildings and open spaces. Consequently, Verdun street gained its unique character and identity that differs completely from traditional commercial streets in Beirut such as Hamra and Mar Elias. Currently, Verdun street is a thoroughfare connecting several neighborhoods and functioning as an exit from Beirut to the southern parts of the city. Therefore, this has resulted in a fragmented urban fabric and a poor quality pedestrian network. However, the open spaces along this artery provided quality open spaces that are currently not well integrated with the public network of the street but could be definitely seen as an asset to Verdun street.

CHAPTER III

OPEN SPACES ANALYSIS

A. Introduction

In the field of urban design, it has been constantly argued that the spatial design of the built environment shapes the patterns of use of spaces and influence people's activities and practices (Kayden, 2000; Carmona et al., 2003; Gehl, 2011). In Verdun, different architectural layout of shopping malls has generated different typologies of open spaces. Each typology represents specific challenges and opportunities for its users and the street itself. In the previous chapter, I outlined the phases of transformation of Verdun from a residential pedestrian friendly street into a thoroughfare and a mall artery.

Varna and Tiesdell (2010) explain that the publicness of a space could be assessed through two approaches: deductive (people's perception) and inductive (theories) [See figure 8]. In this chapter, I evaluate open spaces in Verdun based on two criteria: people's perception and literature review in order to develop combined criteria for inviting public spaces. Scholars argue that the physical environment (Studer, 1969; Mehta, 2009) shapes people's perception of open spaces and their behavior patterns. As previously mentioned in the introduction, I begin my analysis with the most critical finding of my interviews. I start with people's perception of what makes an open space more inviting and public. Then, I identify different typologies of open spaces in Verdun and I evaluate each typology based on the criteria derived from the literature review. [See figure 9]

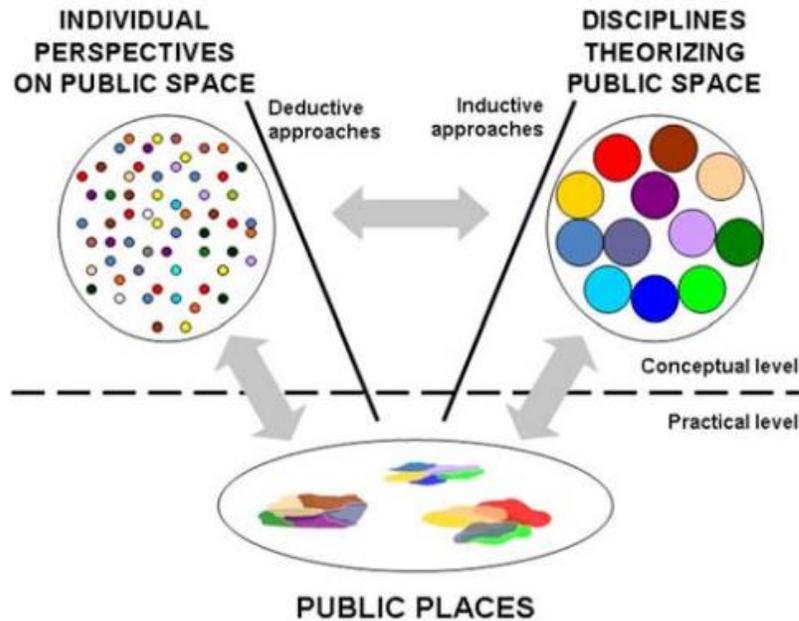


Figure 8: Inductive and deductive approaches to the publicness of space (Varna & Tiesdell 2010)

In this chapter, and prior to presenting and discussing my findings, I will begin with the literature review that, first, provide an overview of malls in general to understand how they function and the aspects that attract people to malls and make the experience in malls desirable and more pleasant than the one in city streets. Second, I present several evaluation criteria for open spaces developed by various scholars and Urban Designers: Kayden (2000), Whyte (1980), Gehl (2013), Varna and Tiesdell (2010) and Projects for Public Spaces. I further explain star model developed by Varna and Tiesdell (2010) that guided my analysis for open spaces in Verdun Street. I then present the methodology I used for assessing the different typologies of open spaces in Verdun. To be more specific, in the urban analysis for open spaces, I start with people's perception of open spaces which I

found to be the most important finding of my research. I then evaluate open spaces based on the literature review in order to conclude with combined criteria on the basis of which I can articulate a design that would respond to the experiences documented in the urban design literature and accounting for the preferences of the users I interviewed.

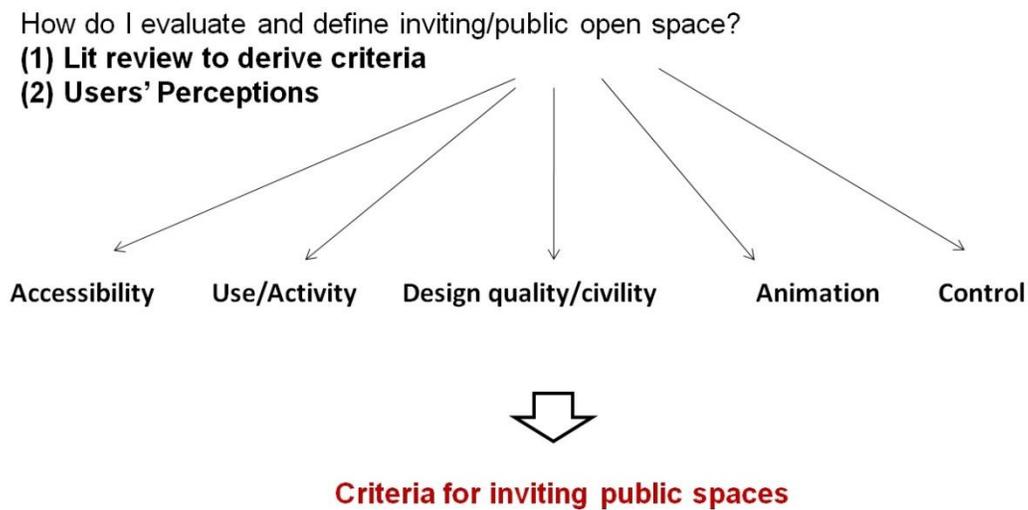


Figure 9: Methodology for Analyzing Open Spaces in Verdun (Author 2019)

1. What is a mall?

The term «mall» means protected promenade (Dovey, 2014). The concept of shopping malls dates back to the 1950s, and more specifically to 1956, when Victor Gruen developed and designed the first multi-level, enclosed, climate-controlled space he titled the Southdale Center in the United States (Kohn, 2004, pp.59; Dovey, 2014). [See figure 10 and figure 11] At that time, Gruen hoped to create *artificially* a vibrant pedestrian environment for American suburbs where users would come driving (Kohn, 2004; Dovey, 2014, pp. 125-126). He thus crossed the traditional design of a European arcades, such as

those seen in London or Paris, with the typology of the department store, another European typology (Dovey, 2014). Gradually, shopping malls expanded from suburbs to the inner city, replacing pedestrian commercial streets. Nowadays, Kohn (2004) argues that developers conceive the mall as a «*city within a city*», which justifies the growing number of cultural and leisure amenities provided in shopping malls such as cinemas, gym, beauty spas and even hotels. Dovey (2014) went as far as to argue that the mall is a «*city inverted*» (pp.128) since malls have reintroduced and recreated urban public life in private spaces. Consequently, enclosed shopping malls have reduced the permeability and connectivity of street networks and recreated it inside (Dovey, 2014), urging the need to readapt streets to these changes and to reinforce their importance in urban public life.



Figure 10: Southdale Center (<https://interactive.wttw.com/tenbuildings/southdale-center>)



Figure 11: Southdale Center Interior Space (<https://libguides.mnhs.org/southdale>)

Why are people attracted to malls? What makes POPS in shopping malls more desirable and successful than public spaces? Are malls perceived as public or private spaces?

First, shopping malls provide a comfortable shopping experience and they act as social centers providing large range of recreational and entertainment facilities (Makgopa, 2016). People's behavior in malls is different from that of pedestrians walking in ordinary streets. In malls, pedestrians move easily and freely from one side to the other due to the absence of vehicles and curbs (Jacobs, 1961). Malls provide a quality atmosphere that is pleasant and protected from weather (Gudonaviciene and Alijosiene, 2013; Makgopa, 2016). Furthermore, people consider the mall to be safe place because of the security mechanisms controlling this space: private security guards, cameras surveillance, gates, and

checkpoints (Makgopa, 2016). Most importantly, one of the main attractions of malls is accessibility resulting from the provision of large parking facilities.

B. Users' perception of open spaces

1. Methodology

In order to define people's perception of inviting and public open space, I showed participants (street users) images of all privately owned open spaces in Verdun: Concorde, Verdun Gardens, Verdun 730, Verdun 732, Assaf Center, ABC, Dunes, Verdun Plaza 1 and 2. I asked participants to choose two open spaces: a space they consider as the most inviting and public space and another one that they perceive as the most private and uninviting open space [See figure 18]. While showing the images, I mentioned the name of each venue to make sure that they recognize it. After choosing two images, I asked them whether their choice is based on their experience in the space or based on the image only.

Furthermore, I asked participants to explain the reason behind their choices. This allowed me to develop a set of characteristics that attract people to a place and discourage them from using another place. The total number of participants is 17 street users. Questions were asked in Arabic, and specific terminologies such as «privately owned open space» were explained prior to asking the questions.

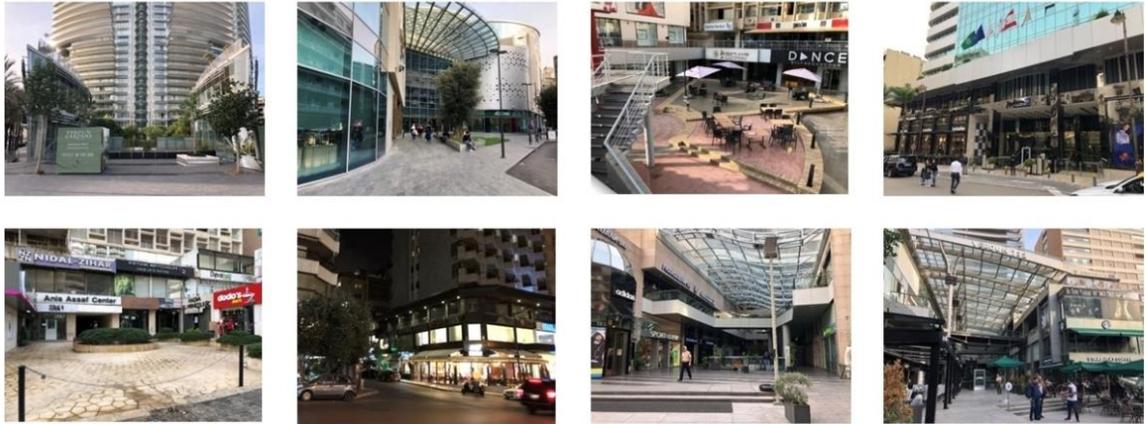


Figure 12 Images of Privately Owned Open Spaces showed for participants (Author 2019)

2. Findings

While the sample is too small to provide a generalizable set of criteria, my interview findings reflect a good idea of how users perceive space. Out of 17 street users, 14 participants chose ABC Verdun as the most “public and inviting” open space and 12 participants chose Assaf Center as the most “private and uninviting” open space [See figure 13]. ABC mall was unanimously chosen for what users described as “their experience in the space”. All interviewed participants had used and experienced ABC. In contrast, almost none of the respondents identified the Assaf Center and evaluated it on the basis of the image I had presented. Some of the interviewed participants had no idea that Assaf Center exists along Verdun Street.

Concorde	Verdun Gardens	Verdun 730	Verdun 732	Assaf Center	ABC Verdun	Verdun Plaza 1 & 2	Dunes
	Private 1	Private 1	Public 3	Private 12	Public 14 - Private 1	Private 1	Private 1

Figure 13: Survey results (Author 2019)

Looking at the design of these malls, it is interesting to contrast the experiences of users with the criteria unraveled in the above section. Indeed, these answers contradict what is commonly known by urban designers as inviting open space: while ABC Verdun is a completely introverted, highly controlled space with no visual permeability to the street, it was selected as the most “public space”. In contrast, the open space in Assaf center is an outdoor plaza that is directly connected to the street and not controlled with almost any security mechanisms [See figures 14 and 15].



Figure 14: ABC Mall Entrance (Author 2019)



Figure 15: Outdoor Plaza in Assaf Center (Author 2019)

Respondents explained that they are attracted to ABC and perceive it as an inviting public space due to several reasons. First, this one stop shopping experience provides users with a large variety of activities and facilities: retail stores, entertainment facilities such as cinemas, restaurants and cafes and public garden where kids could play. Second, in the imagination of these users, the large scale of ABC means that users can find everything inside and they don't have to go to many places. ABC was also chosen for the design quality and the animation of open spaces provided inside.

Assaf Center was perceived as the most private and uninviting space due to several reasons. The most common reason was that people don't have a reason to use it. The center does not provide important retail or entertainment facilities. For some of the participants, the building looked like an uninviting office building. The design of the center is not very welcoming and the open space is of a poor quality.

Therefore, interviews' findings outline the importance of activities and quality design that people associate with inviting public space. In order to be perceived as a public space, people should be provided with a reason to use the space and with a pleasant environment that encourage them to stay in the place.

C. Review of Existing Urban Design Literature on the Quality of Public Spaces

1. Evaluation Criteria for Privately Owned Open Spaces developed by Kayden (2000)

How have researchers evaluated publicly accessible space? In his study on New York City, Kayden (2000) identified five main factors to evaluate privately owned public spaces: (1) accessibility time, (2) maintenance of provided physical facilities (e.g. walks, fountains, seating, gardens), (3) multiplicity of groups drawn to use the space, (4) degree of publicness resulting from the general architectural layout, and (5) regulations controlling the uses of the space (Kayden, 2000). Privately owned open spaces studied by Kayden are different from open spaces existing in Verdun; they are not spaces provided by malls but mainly by office buildings. However, evaluation criteria could be derived from the New York case study since the success of any typology of open space is measured based on people's presence in the space. The analysis conducted by Kaden on New York City showed that some of the open spaces were neglected, failed to attract people and ended up

being abandoned open spaces. As a result, one can add to Kayden's above five method of analyzing public spaces a sixth criteria, the existence of functional amenities and recreational activities that encourage use (Kayden, 2000).

Furthermore, Kayden showed that closely scattering open spaces along the street does not guarantee an active public street life. To the contrary, the street may become a sequence of «*confused and irregular*» spaces depleting the excitement and the attraction of retail frontages (Kayden, 2000). However, that does not reduce the significance of well-located and well-functioning open spaces as catalyst for social activities especially in dense urban environments where office workers, shoppers, passing by people and residents are all possible users (Kayden, 2000; Gehl, 2013; Nemeth, 2009). In sum, one can derive from Kayden's work at least criteria that can be used to evaluate the quality of public space.

2. Star Model

The star model by Varna and Tiesdell (2010) assesses the degree of publicness of open spaces (privately and publicly owned). It relies on five dimensions that measure the degree of "publicness" going from less to most public spaces, These are (1) property ownership (private/public), (2) control (management approaches), (3) civility (maintenance and provision of basic facilities), (4) physical configuration (design layout and spatial relationship with the street), and (5) animation (diversity of activities). Each dimension is evaluated based on several indicators that define the numerical value (from 0 to 5) of each dimension [See figure 16, 17 and 18]. The left hand side of the star model is more design-

oriented and physical and the right is more managerial and social (Varna and Tiesdell, 2010)

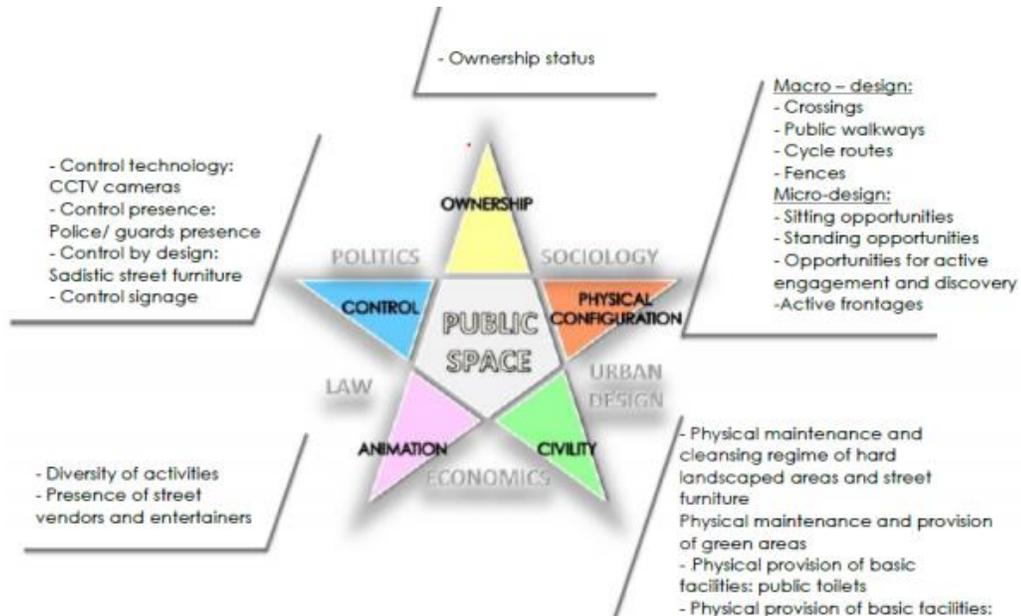


Figure 16: Star Model Dimensions (Varna and Tiesdell, 2010)

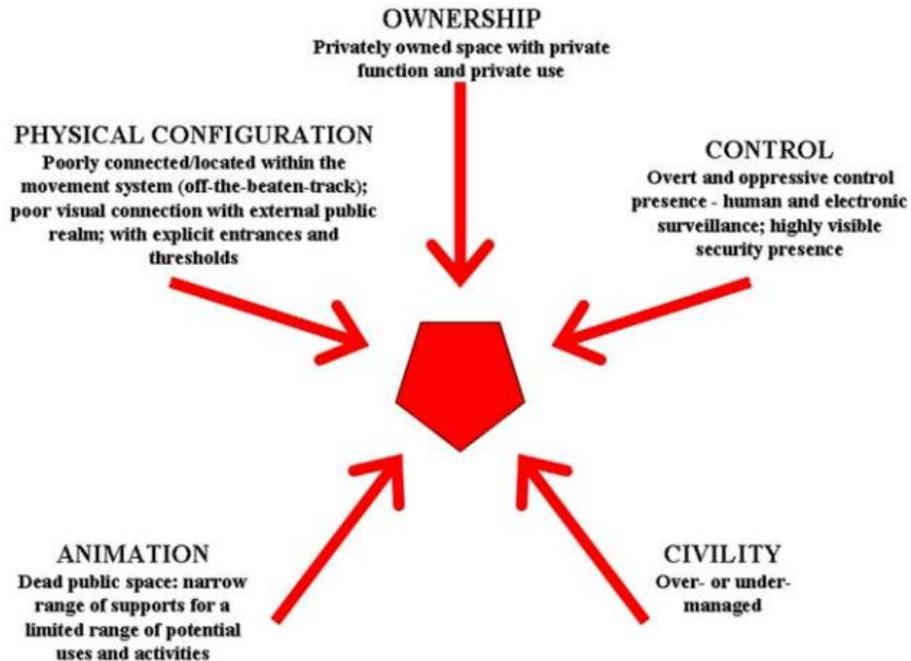


Figure 17: Characteristics attributes of 'less public' places (Varna and Tiesdell 2010)

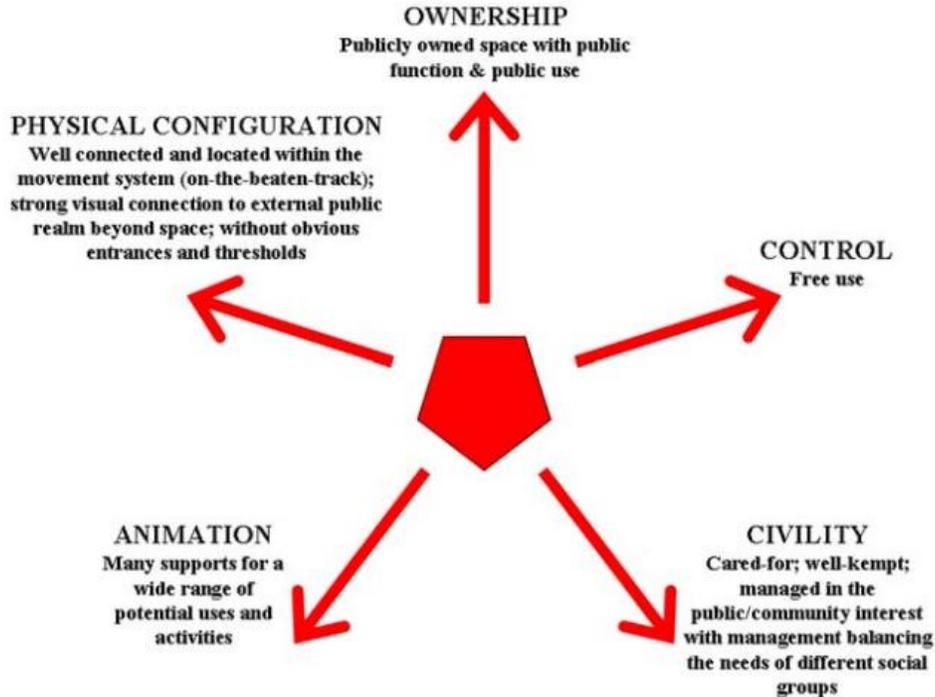


Figure 18: Characteristics attributes of 'more public' places (Varna and Tiesdell 2010)

3. What makes a "great place"? Gehl (2013), Whyte (1980) and PPS

The building environment shapes our behavior and affects our daily lives (Whyte, 1980). William H. Whyte (1980) studied human behavior in several open spaces in New York City to identify what makes an urban space active and successful or unused and unsuccessful. He argues that the main attraction for people is other people (Whyte 1980). From his study, he concluded that a successful place should provide people with spaces to sit, to eat, to walk and feel connected to the street. According to white, part of the ground floor use should be active and dedicated for retail and food-use (Whyte, 1980) Furthermore, he shows that people are attracted to places that provides them with options of sitting in sun or shade, to places that are animated with trees and water features.

Jan Gehl (2013) has always focused on the concept of creating spaces for people. He urges the need to make our cities more inviting, especially in the current conditions of privatization where public life is fading (Gehl, 2011). In one of his interviews, Gehl (2017) showed how to design a livable city that has a great street life and its design focuses on the people living in it. In his studies of the public life in cities, Gehl (2011) classifies activities that could take place in open spaces into two categories: necessary activities that take place in any condition, and optional activities that take place only in good condition. Necessary activities are commercial activity, standing and waiting for transport. Whereas optional activities are the following: sitting on benches, sitting on secondary sitting possibilities, sitting on café chairs, cultural activities, children playing and physical activities (Gehl, 2011). According to Gehl, the more the space supports optional activities, the better it is.

Another criteria for great places was also developed by Project for Public Spaces PPS organization. The diagram below shows that four qualities make great places: a great place is accessible for all people and well connected with its surrounding; it is an active space that offers variety of uses and facilities; it is an interactive and sociable place; and finally it is comfortable and pleasant with a good image. [See figure 19]

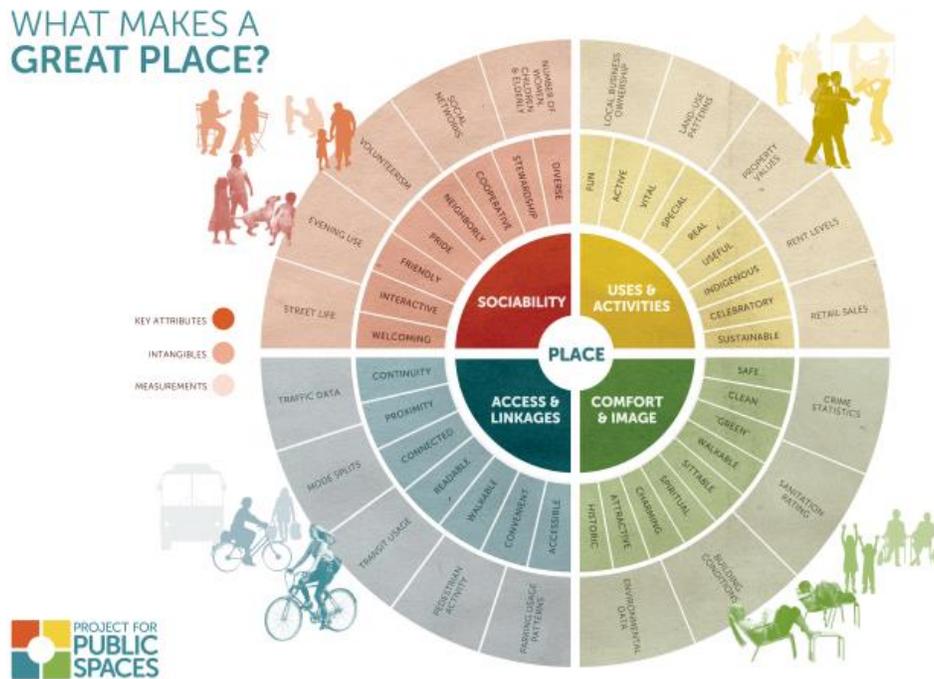


Figure 19: The Place Diagram (<https://www.pps.org/article/grplacefeat>)

4. Case studies

In this section, I present two case studies of successful privately owned open spaces that support the idea of a great place and shows how to intervene on privately owned open spaces and make them more attractive and inviting.

a. Case Study 1: Empire Park

Empire Park is a privately owned open space located in San Francisco. The park is provided and maintained by private owners «owners of 505 Montgomery Street». The park is located on a commercial street and it is of a small scale. The park is well landscaped and furnished. Public benches are provided, trees are planted and water features animate the

space. The focal point of the park is a water feature designed by PePo Pichler. A white canopy animates the place and provides shade from sun during summer. This case study shows that even a small privately owned open space can be well designed, furnished and maintained and act as an inviting public space regardless of its ownership status.[See figure 20]



Figure 20: Empire Park (https://www.yelp.com/biz_photos/empire-park-san-francisco?select=0f87KXR2uiQu_3oP1vvyAA)

b. Case Study 2: 525 Market Plaza

Designed by PWP Landscape Architecture and Keating Architecture. «525 Street Market Plaza», is a plaza of an office skyscraper developed in 1973 located in San Francisco. The plaza is open and directly connected to the street. In its original situation, the plaza did not support many public activities. However, the plaza has been target for remodeling and renovation. The renovation aimed at upgrading and creating a new identity to the plaza and most importantly, transforming the space into an iconic public space in the downtown San Francisco.

The proposed design is of a high quality and features several attractive landscape elements. It includes two-tiered circular water feature made with a water cascade that will flow over the edges creating a visual appeal when reflecting the sunlight. In addition, the

lighting scheme envisioned at night gives the plaza a special character and will activate the plaza at night. To make the new plaza more inviting, various seating opportunities were that allow users to enjoy food and drinks from nearby stores. [See figure 21 and 22]

This case study shows that even inactive open spaces can be revitalized and reactivated through a design scheme that aims at upgrading the quality of the space, enhancing accessibility and providing facilities that will attract people to use the space.

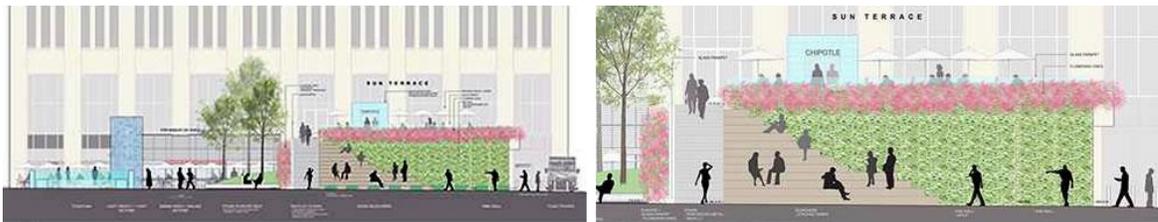


Figure 21: Section for Proposed Design (<https://socketsite.com/archives/2015/04/market-street-plaza-and-chipotle-lovers-take-note.html>)



Figure 22: 525 Market Plaza, original conditions and proposed design (<https://socketsite.com/archives/2015/04/market-street-plaza-and-chipotle-lovers-take-note.html>)

5. Evaluation of Open Spaces in Verdun Based on the Literature Review.

The analysis of Verdun, showed that not all commercial centers succeed in attracting users. For instance, in Verdun, ABC [See figure 12] had sucked up almost all of the commercial activity not only from the street but also from surrounding malls. In the following section, I derive the characteristics that attract people to a specific mall and its open spaces. I evaluate various typologies of open spaces in Verdun based on the literature review by examining the following components: Accessibility, Use/Activity, Design Quality/Civility and Control. First, I classify each privately owned open space based on the typologies identified in this section. I then provide a description of each open space that tackles previously mentioned components of the analysis. This allowed me, in the conclusion, to develop criteria for open spaces that respond to people's perception of inviting open space and to the actual uses and practices taking place in open spaces.

Different typologies and architectural layout of buildings in Verdun have generated multiple typologies of open spaces: semi-closed and introverted [See figure 21]. Each typology could also be classified into different sub-categories based on the street façade and the relation of the entrance and the ground floor to the street.

a. Semi-closed open spaces

Semi-closed open spaces are generally open to the street but with a controlled accessibility. Surveillance is provided by private cameras and usually one private security at the entrance. Even when closed at night, these spaces remain visually accessible. In Verdun these semi-closed open spaces could be divided into 3 categories: open space below

street level (Concorde), outdoor open space (Verdun Gardens) and open space same as street level (Verdun 730, Verdun 732 and Assaf Center). The design quality, management and activity in these open spaces differs from one space to another.

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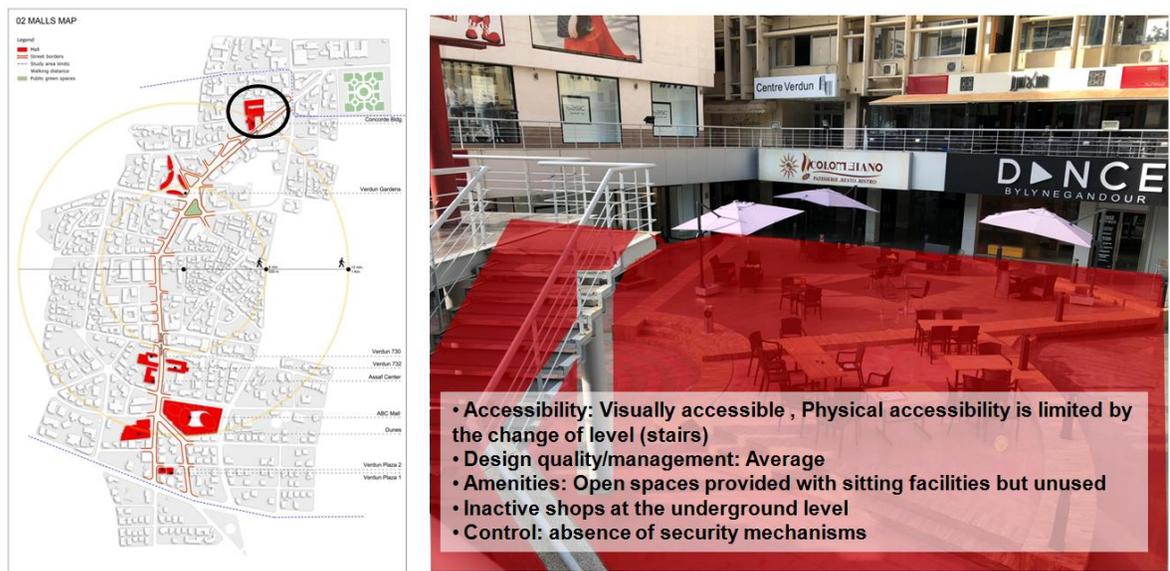


Figure 23: Semi-closed open space below street level - Concorde (Author 2019)

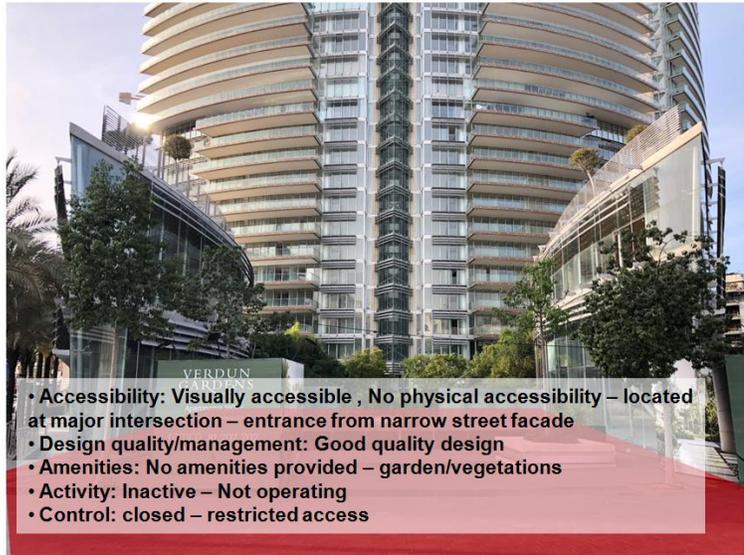
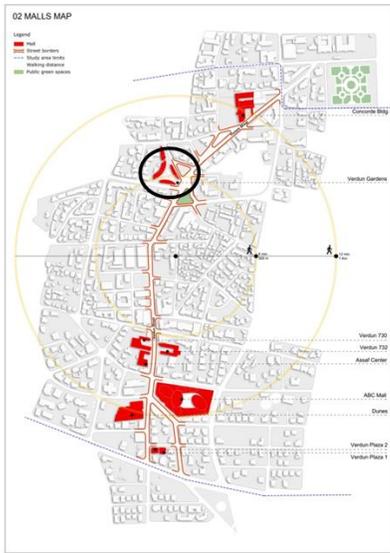


Figure 24: Semi-closed outdoor open space - Verdun Gardens (Author, 2019)

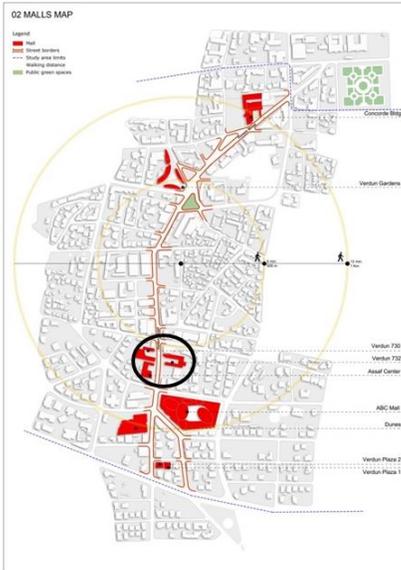
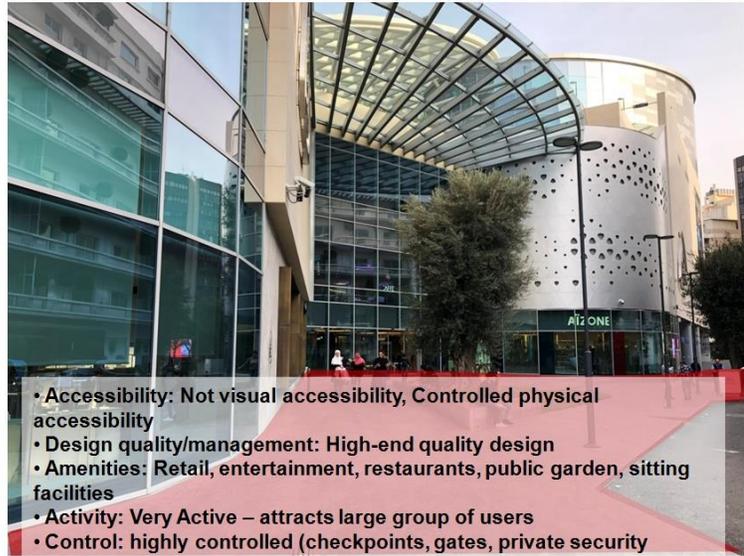
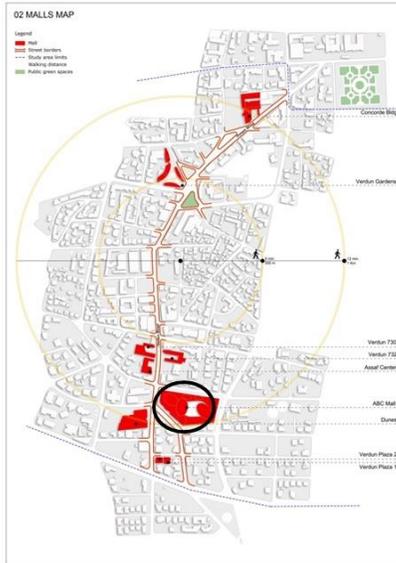


Figure 25: Semi-closed open space same as street level - Verdun 730, 732 and Assaf Center (Author 2019)

b Introverted Open Spaces

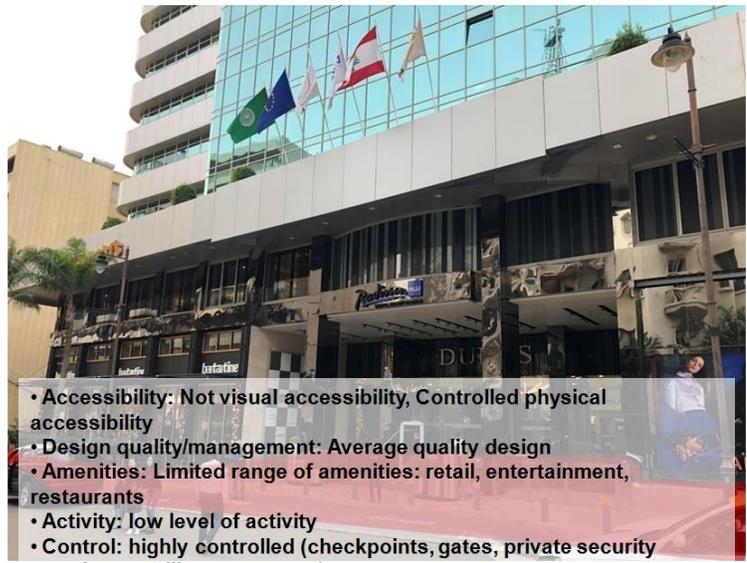
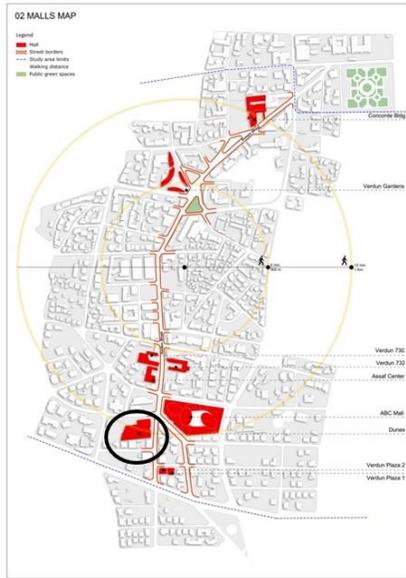
The enclosed architectural layout of buildings creates introverted open spaces that are disconnected from the street. They consist of indoor open spaces that are surrounded by retail stores, restaurants and cafes. The physical accessibility to introverted open spaces is usually controlled by small gates, security guards, and checkpoints. Visual permeability to these spaces is almost inexistent. In Verdun, there are two types of introverted open spaces: open spaces with closed street façade (ABC) [See figure 26] and open spaces with open street façade (Dunes) [See figure 27].

The design, use, and quality of these two open spaces differ considerably. Dunes is a shopping mall complex with hotel on the upper floors. Its indoor open space is enclosed and is constituted mainly of the interior circulation area. However, open space in ABC represents a new typology of high quality open space that is indoor and outdoor at the same time. Open space in ABC is animated by a large, shaded garden providing a pleasant environment and activities for all users (shoppers, kids, employees, non-consumers).



- **Accessibility:** Not visual accessibility, Controlled physical accessibility
- **Design quality/management:** High-end quality design
- **Amenities:** Retail, entertainment, restaurants, public garden, sitting facilities
- **Activity:** Very Active – attracts large group of users
- **Control:** highly controlled (checkpoints, gates, private security guards, surveillance cameras)

Figure 26: Introverted open space with closed street facade - ABC (Author 2019)



- **Accessibility:** Not visual accessibility, Controlled physical accessibility
- **Design quality/management:** Average quality design
- **Amenities:** Limited range of amenities: retail, entertainment, restaurants
- **Activity:** low level of activity
- **Control:** highly controlled (checkpoints, gates, private security guards, surveillance cameras)

Figure 27: Introverted open space with open street facade - Dunes (Author 2019)

6. ABC: the most active open space in Verdun.

As shown in the analysis above, shopping malls in Verdun do not function in the same way; Certain commercial centers are more active than others. Some of the open spaces are vibrant while others are inactive and empty. ABC is the most active open space that succeeded in attracting large number of users. ABC is place where different types of activities take place [See figure 28]. The mall was promoted as a «community mall» effectively providing the largest publicly accessible garden in the neighborhood, the mall has nonetheless brought a massive new scale to the neighborhood that has sucked up businesses from nearby malls and off the street and further encouraged a practice of the neighborhood through vehicular mobility. Assembled with a group of fancy cafes and restaurants, cinemas, large number of chain stores and a large green space, the mall had sucked up almost all of the commercial activity from the street and surrounding malls.[See figure 29].

However, although shopping malls in Verdun are sucking up the business from the street and are creating a challenging urban environment, they are certainly acting as the major attraction to the area. Semi-closed parts of these malls could be considered as the main open spaces in the neighborhood and provide the most important if not the only activity happening along the street.

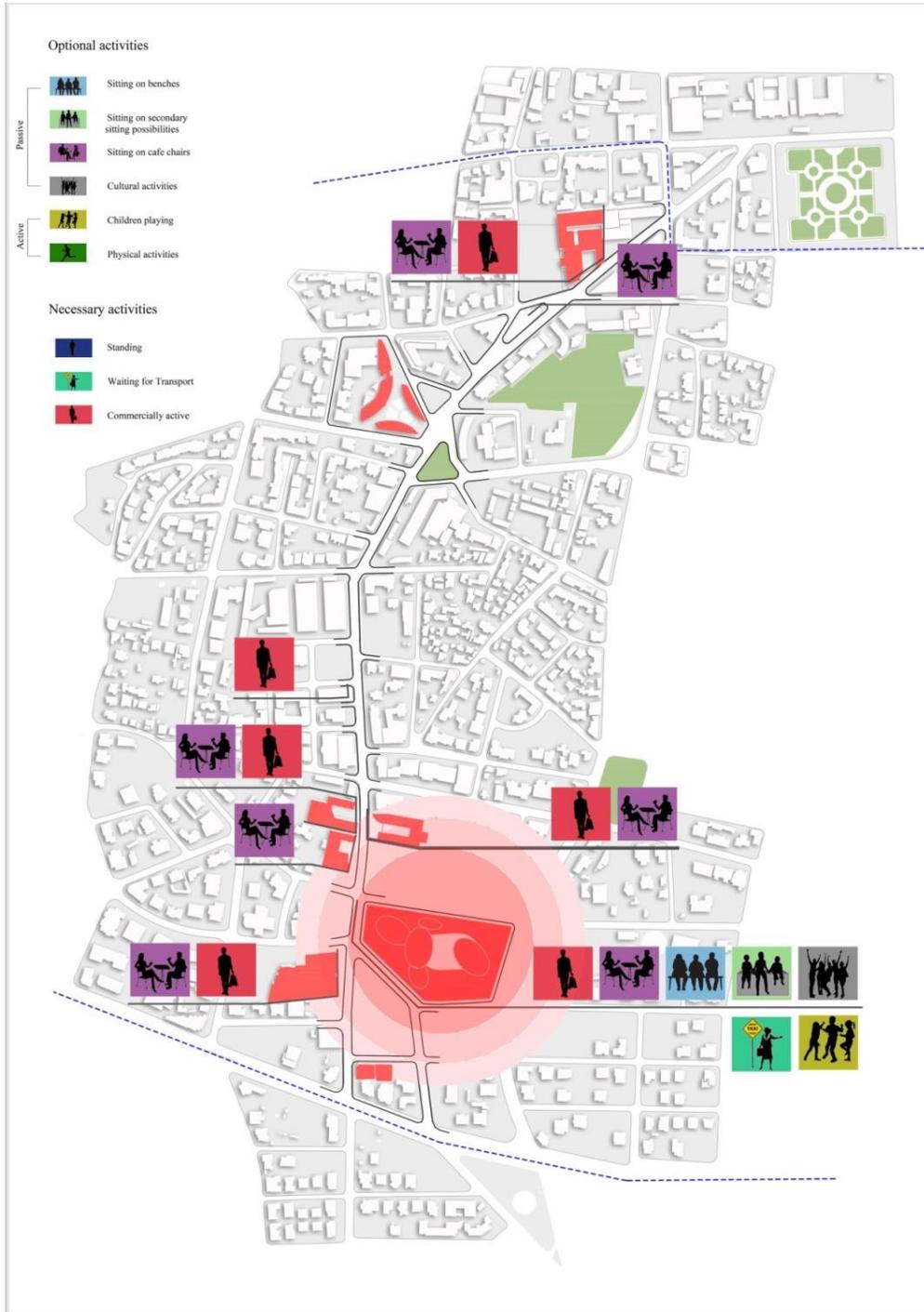


Figure 28: Activities in Privately Owned Open Spaces (Author 2019)

SHOPS MOVED TO ABC



Figure 29: Shops activity in Verdun (Author 2019)

7. Chapters' Conclusions: Criteria for Public and Inviting Open Space Design for Verdun

By reviewing both users' perceptions and criteria in the urban design literature, I have developed criteria for the design of inviting open space that combine the main characteristics listed by each of these sources [See figure 30]. These are:

- A public open space should provide people with a reason to use the space.
- A public open space should be physically accessible and visually permeable to encourage people to enter smoothly to the space.
- A public open space should be well designed and maintained to attract people
- A public open space should show sufficient "control" to provide users with a feeling of security and safety without being intrusive.

One of the most important findings of the surveys was that the legal ownership status of a place does not affect how users in Beirut actually perceive this space as long as it is publicly accessible, safe and most importantly, provide people with a reason to use the space.



Figure 30: Criteria for Inviting/public open space (Author 2019)

Therefore, urban designers and practitioners should make use of the privately owned public spaces as an asset to the city and rely on them to animate and enhance the overall quality of public spaces in cities, particularly city streets. This is what I will do in my design intervention. Before doing so, however, I dive in the next chapter into the analysis of the street network.

CHAPTER IV

STREET NETWORK AND MOBILITY ANALYSIS

A. Introduction

This chapter presents the findings of my fieldwork assessing the quality of Verdun Street in supporting urban mobility. I evaluate the ability of the street network in Verdun to function as a connecting network of usable sidewalks that provides pleasant and safe mobility to users.

The chapter begins by a literature review of recent works analyzing the importance of streets as major public spaces in cities and the challenges facing their users in dense urban environments. This literature review is used as the basis for deriving the characteristics of “good streets” on the basis of which I assess the quality of the Verdun network and articulate guidelines for my design intervention. These guidelines are complemented by the main findings of the interviews I conducted with street users that outline what users prioritize in a pedestrian friendly street. I synthesize the analysis by identifying the strengths and weaknesses of Verdun Street. Then I conclude with criteria for street network in Verdun that guided my design intervention. The analysis covers the vehicular mobility and the pedestrian circulation. [See figure 31]

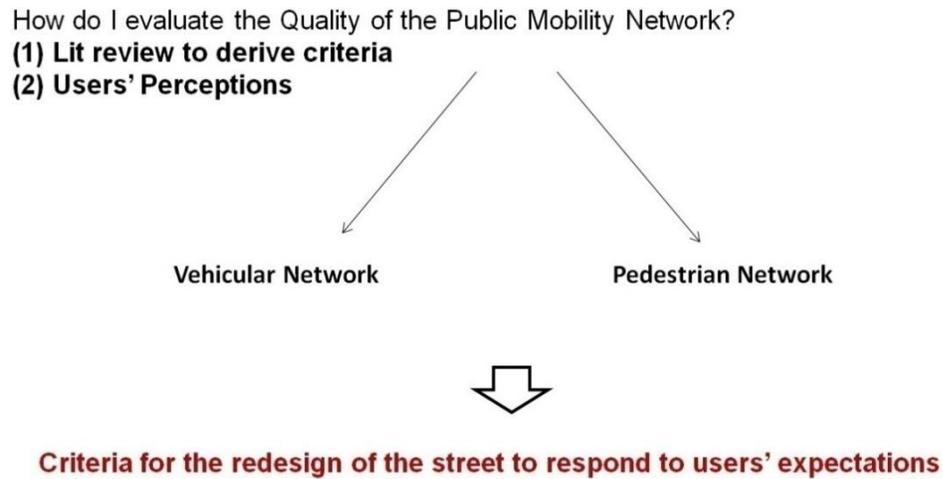


Figure 31: Methodology for analyzing public mobility network in Verdun (Author 2019)

B. Review of the Urban Design Literature on Street Design and Guidelines

To analyze the Verdun Street network, I crossed evaluation criteria from the work of several urban designers (Jacobs, 1992; Mehta, 2009; Carmona et al.2012; Gehl, 2013). This allowed me to develop criteria for what makes great streets based on the literature review.

1. The street as Public Space

The organization and design of city streets has figured prominently in the concerns of leading urban designers who have discussed streets and the networks they form, outlining criterial for their success (Jacobs, 1992; Mehta, 2009; Carmona et al.2012; Gehl, 2013). One of the chief concerns of urban designers in the past decades has been to recover streets from cars, or make city streets pedestrian friendly and support soft mobility in order to make our cities livable and sustainable (Appleyard, 1980; Madanipour, 2003; Gehl,

2013). Designers have argued that spaces dedicated for cars should be reduced to the minimum since wider roads attract more cars and encourage people to drive more (Duranton and Turner, 2011). These studies locate their intervention within a wider discussion of urban mobility in which public transport and soft mobility should absorb the largest section of the modal distribution, reducing the use of private cars whenever possible.

Furthermore, urban designers have converged on the importance of streets and their sidewalks as the main public spaces of the city. Thus, Jacobs (1961) wrote: “*Streets and their sidewalks, the main public spaces of the city, are its most vital organs. Sidewalks, their bordering uses, and their users, are active participants in the drama of civilization.*” (pp. 29-30, quoted in Mehta, 2009). Furthermore, Loukaitou-Sideris and Ehrenfeucht (2009) defined the sidewalk as: “*A commercial terrain for merchants and vendors, a place of leisure for flaneurs, a refuge for homeless residents, a place for day-to-day survival for panhandlers, a space for debate and protest for political activists, an urban forest for environmentalists*” (pp.3). This focus is maintained among leading urban designers who point to the broad role of streets as spaces for social and economic activities and not only mobility corridors. The street is much more than a place for movement from one place to another (Jacobs, 1993). City streets, more specifically their sidewalks, are places for people to meet and to be alone, to see and be seen, to hangout, to protest, to do business, and to experience the building environment (Appleyard, 1980; Jacobs, 1993; Gehl, 2013). However, streets change constantly, and in order to be successful, streets should be able to adapt appropriately to various urban challenges (Jacobs, 1993).

There is no doubt that city streets should accommodate for the needs of all its users: pedestrians, cyclists, car users, and transit users. However, to be sustainable and livable, streets should prioritize people over cars (Appleyard, 1980; Gehl, 2013). The role of streets and sidewalks as public spaces cannot be achieved unless people were invited to walk and were provided with a reason to stay in the street (Carmona et al, 2012; Gehl, 2013). This led many planners, designers, and policy makers in some cities to shift their focus towards designing more sustainable and pedestrian friendly streets.

“When we design successful streets, then we will have successfully designed about one third of the city directly and will have had an impact on the rest” (Jacobs, 1993, pp.24).

2. Challenges Facing Urban Streets

The growing number of challenges facing urban streets and their users shows that designing a successful street goes far beyond traffic engineering; it is more than a science (Jacobs, 1993). A street’s successful design requires looking at its various dimensions: social, economic and physical (Jacobs, 1961; Carmona et al, 2012; Gehl, 2013). The social dimension tackles mainly people's mobility and patterns of use of the street; it includes both: pedestrian network in relation to the vehicular circulation, and sidewalks activities. As for the economic dimension, it is reflected in the ability of the street to attract and support businesses. Whereas the physical dimension focuses mainly on the spatial characteristics of the street such as: sidewalk design, urban furniture and street frontages.

Over the past decades, the increase use of vehicles coupled with inappropriate design of streets has deprived the street from its role as the main public space in city (Badawi, 2017) and has generated various urban challenges: mobility problems resulting

from the conflicts between car users and pedestrians, sidewalks of poor quality, and environmental pollution (noise and air pollution). How these challenges shape urban streets?

a. Mobility Challenges

Creating new roads, widening existing ones, and providing large parking facilities to accommodate for the increasing number of cars, has attracted more cars and has encouraged people to drive more (Duranton and Turner, 2011). This has been argued by many scholars and urban designers. Thus, Gehl (2011) states that: “*In every case, attempts to relieve traffic pressure by building more roads and parking garages have generated more traffic and more congestion*” (pp.9). Besides exacerbating traffic congestions, Jacobs (1961) argues that providing more space and greater accessibility for cars decreases public transport efficiency which, in turn, discourages people from using it. In Verdun, the overflow of cars and chaotic on-street parking, along and on the sidewalk, has disrupted pedestrian mobility. In addition, large roads made it risky and unsafe to cross the street. This has led to the disconnection between both sides of streets, and consequently, has decreased the pedestrian activity along the sidewalk [See figure 32].

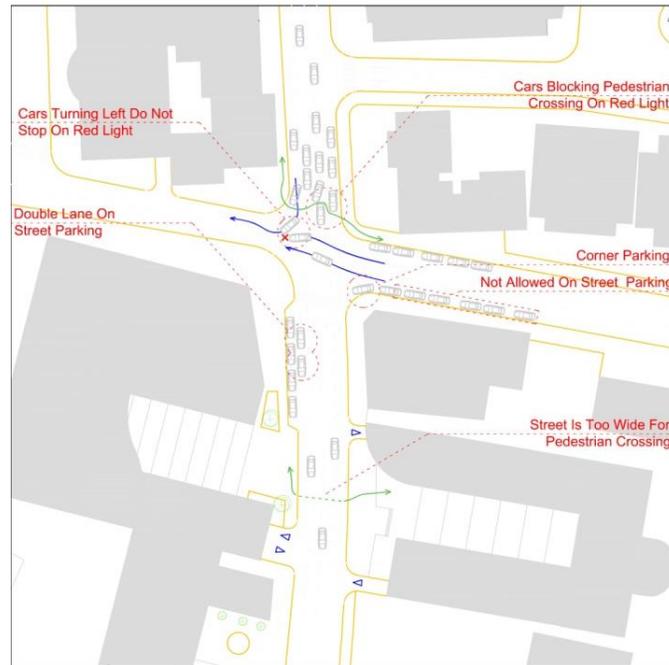


Figure 32: Mobility challenges in Verdun (Author 2019)

b. Sidewalks of poor quality

In many dense urban environments, streets design has been narrowed down to roads and lanes, and sidewalks are being neglected, and sometimes limited to leftover spaces. When cars are prioritized over pedestrians, sidewalks become underrated, and lose their importance as a soft mobility mean and an outdoor public space (Jacobs, 1961; Gehl, 2011). This explains why, in such case, responsible authorities don't make any effort nor take any initiative to upgrade the quality of sidewalks - width, pavement, and furniture. As a result, sidewalks deteriorate gradually and become unwalkable and unattractive. [See figure 33]

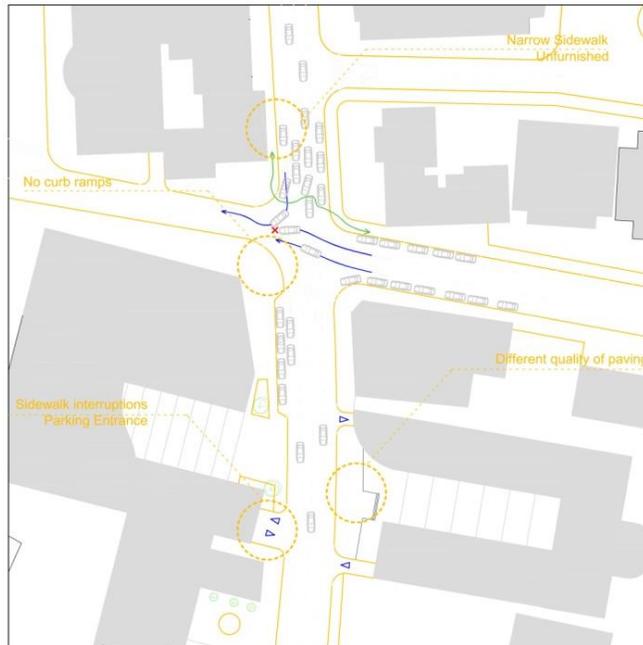


Figure 33: Poor Quality Sidewalks in Verdun (Author 2019)

c. Environmental pollution

The rise of problems caused by transport has not only been the focus of scientific researchers, but also designers and planners (Peter, 1994). Studies have shown that automobiles are generating several serious environmental challenges such as: air pollution, noise pollution and water pollution (Frank p. et al, 1975). On one hand, increased traffic threatens people's lives by causing health problems. On the other hand, the traffic noise disturbs people walking along the street and creates an unattractive walking environment.

[See figure 34]

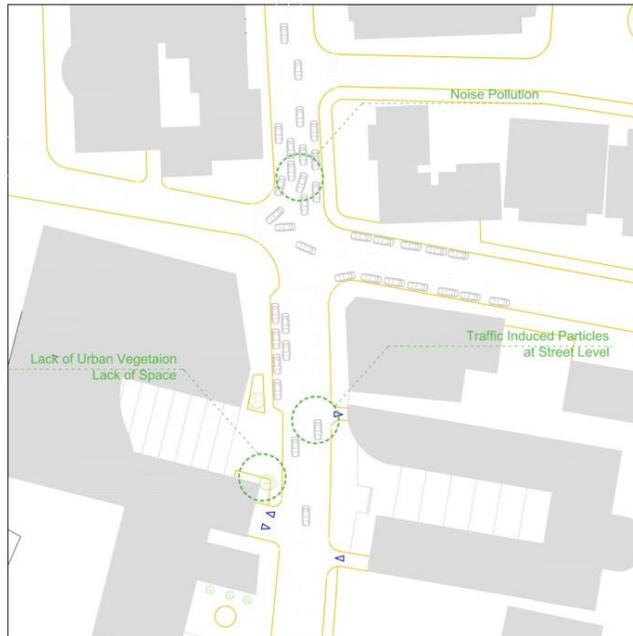


Figure 34: Environmental Challenges in Verdun Street (Author 2019)

3. What makes a good street?

How to accommodate for increasing number of cars commuting city streets and how to solve traffic problems? How to reclaim streets as walkable spaces? How to transform streets from a place to pass through into a destination?

Pedestrian streets don't necessarily mean a complete lack of cars, but rather streets that are not dominated by cars where pedestrians can move and cross streets safely (Jacobs, 1961; Gehl, 2010). Jacobs argues that what is needed is not a complete separation of cars and pedestrian because “life attracts life” (Jacobs, 1961, pp. 348). What is required is a balance between different types of mobility and standards of sustainable cities and needs of people (Carmona et al, 2012). According to the Fundamental Law of Road Congestion, “public transit serves to free up road capacity by taking drivers off the roads and putting them in buses or trains” (Duranton & Turner, 2011, pp. 2634).

Designing streets for pedestrian is not enough. Some effective strategies could be financial and embedded in appropriate and strict policies. For instance, the City of London introduced charges on vehicles entering the city center. As a result, traffic decreased and fees were used to upgrade public transport system (Gehl, 2010). For his study for Seattle, Gehl (2009) identified a criteria for a good city network that focuses mainly on accommodate for all road users and making streets walkable, safer and connected. [See figure 35]

In sum, a good street balance between the needs of all its users. Good streets are: walkable, safe, attractive, well furnished, and environmentally friendly (Jacobs, 1961; Appleyard, 1980; Jacobs, 1993; Gehl, 2009)

<p>CONNECTS DESTINATIONS AND PLACES</p> <ul style="list-style-type: none"> • ensures access to transport hubs, visitor destinations and city services • ensures access to public squares and parks 	<p>ENSURES BALANCE BETWEEN ROAD USERS</p> <ul style="list-style-type: none"> • prioritizes soft road users i.e. pedestrians and bicyclists • introduces new road types with shared space and pedestrian priority 	<p>IDENTIFIES A HIERARCHY OF STREETS AND LINKS</p> <ul style="list-style-type: none"> • activates main streets by concentrating pedestrian flows, rather than spreading them out • identifies transport corridors
<p>INVITES ALL AGES FROM CHILDREN TO SENIORS</p> <ul style="list-style-type: none"> • ensures wide sidewalks and traffic signals for pedestrians • enforces low vehicular traffic speeds • provides bicycle tracks 	<p>IS LEGIBLE, ACCESSIBLE AND SAFE FROM ACCIDENTS</p> <ul style="list-style-type: none"> • clear division between soft and hard road users • human scale signage - 3mph • applies guidelines and measures for disabled 	<p>ENSURES A FEELING OF SECURITY - DAY AND NIGHT</p> <ul style="list-style-type: none"> • pedestrians and bicyclists concentrated on main routes at night • network well linked to main public transport hubs

Figure 35: Quality Criteria for a Good Street (Gehl, 2009)

C. Implementing the Criteria: Verdun as Case Study

In Beirut, responsible authorities and decisions makers prioritize private cars over pedestrians and focus on widening existing roads, creating new ones and allowing for illegal parking spaces by not taking serious actions against it. What worsen the situation are the weak and neglected public transportation system, poor road infrastructure, and neglected and unwalkable sidewalks. As a result, Beirut residents were left with no option but to use their private cars. Therefore, it is important to note that, in the intermediate phase, the evaluation criteria of what makes great streets derived from the literature review could not be applied as it is on the case of Verdun due to the absence of efficient alternative for private the private car. Therefore, being a thoroughfare, Verdun street should accommodate equally for all its users: car users and pedestrians.

1. Methodology

In order to evaluate vehicular network in Verdun, we should analyze different layers: parking, road hierarchy and road width, roadway lanes management, flow of cars based on origin/destination and traffic volume. Due to time limitations, my research didn't cover the «traffic» part of the analysis that would have required an origin/destination count and a real assessment of the volume of cars. Instead, I relied on interviews with professional traffic engineers and used principles to guide my interventions as well as observations and the traffic maps obtained through google. The analysis covers parking, roads hierarchy, traffic management and roadway design.

2. Parking

In Verdun, public parking either is provided as parking lots along the street or as underground parking in malls [See figure 36]. The latter represents both an asset and a challenge. An asset because it provides large parking spaces that are not restricted to mall users; some of them function as public parking when they are not reserved for residential apartments, hotel or offices on the upper floors of mixed-use centers. Yet a challenge since they discourage people from walking, increase traffic flow in the street and interrupt pedestrian activity at the entrances and exists. Parking capacity varies between malls. Almost all smaller shopping malls list around 250 parking spaces but when visiting these spaces, it is obvious that many of the spots are actually blocked. The entrances and exits of these malls are also poorly designed, making it tedious for drivers to use them. In contrast, the ABC mall boasts 1700 parking space with three accessible and well-designed entrances/exits [See figure 37]. Fees are almost the same for all parking areas. ABC parking is accessible from three roads, and since first 15 min parking is for free, it is sometimes used as a through-passage to go from one street to another without having to do a full turn in Verdun.

On street parking is provided in limited sections of the street. However, many cars park illegally in restricted areas along the sidewalk or even on the sidewalk. Illegal on street parking disrupts pedestrian activity and vehicular mobility, but at the same time act as buffer zone between the street and the sidewalk and help to some extent to slow down traffic by narrowing the street.

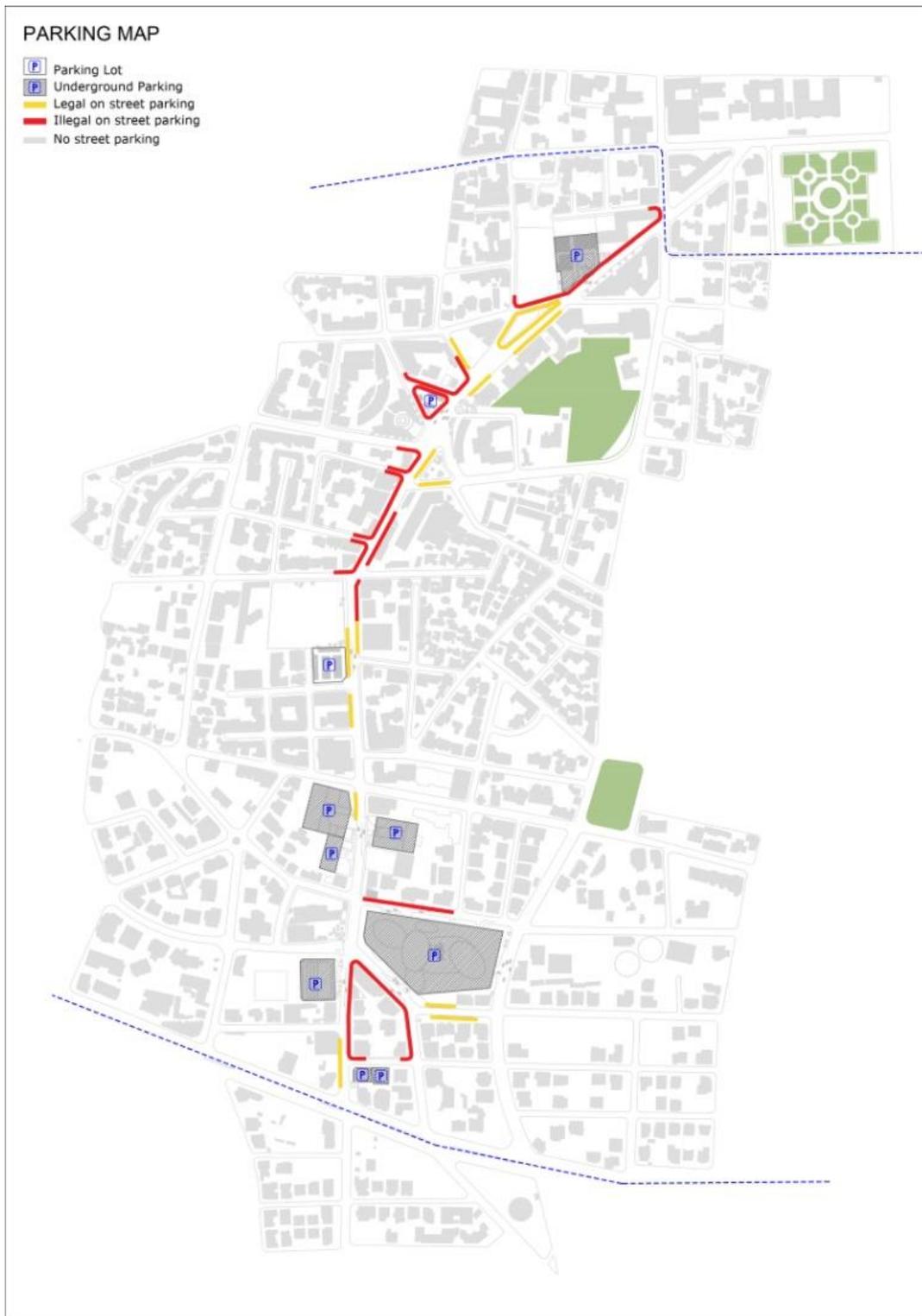


Figure 3: Parking Map in Verdun (Author 2019)

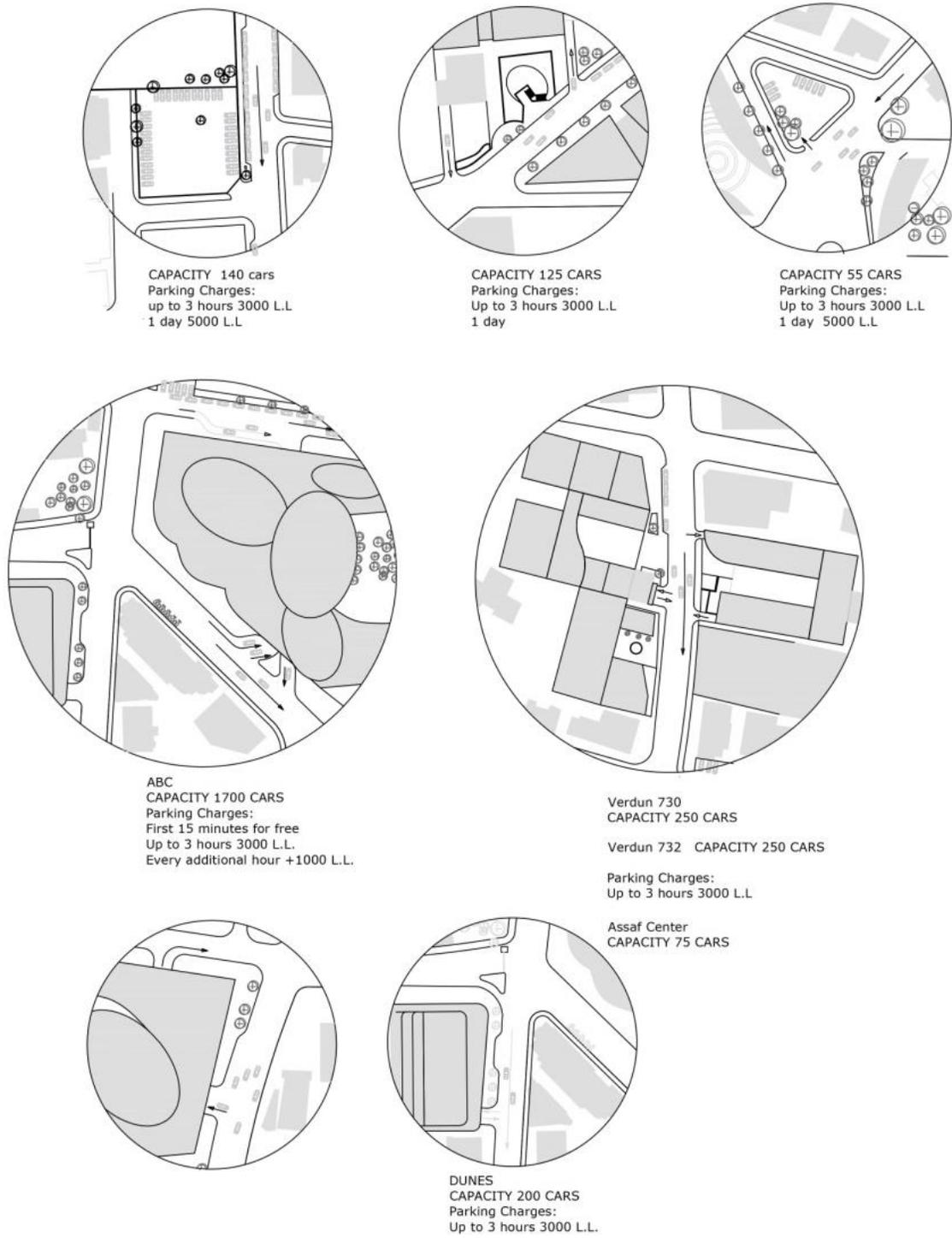


Figure 4: Parking capacity in Verdun (Author 2019)

3. Roads Hierarchy

a. Vehicular Circulation Patterns

Verdun is a large artery that connects disparate neighborhoods of the city: Hamra, Snoubra, Ain El Tineh, Tallet EL khayyat and Koraytem. This artery functions as a thoroughfare used as exit from Beirut to the southern parts of the city and Cola. It also allows for through passage from surrounding neighborhoods, and it is also the road where numerous connecting streets intersect such as Alfred Nobel Street leading to Hamra and Bani Maarouf street leading to Mar Elias. In addition, the street is used as an access road for people coming to the shopping malls [See figure 38 & 39].

b. Street Intersections

Complex street intersections in Verdun and poor pedestrian safety considerations highly contribute in making the street dangerous for walking. In addition to being one-way and wide, Verdun Street intersects with many lateral streets operating at city scale not only at neighborhood scale. The most two challenging intersections are the one with Bani Maarouf Street next to Verdun Gardens, and the junction next to ABC and Dunes. At these intersections, the street becomes wider with many complex crossings, especially at the first one next to Verdun Gardens. Although street lights are provided, it is still risky for non-motorists (pedestrians) to cross the street safely. In other words, the high speed of cars passing through the street or turning left or right coupled with the absence of traffic

calming measures makes it unsafe to cross the street and almost impossible for individuals with reduced mobility, children and elderly people [See figure 40].

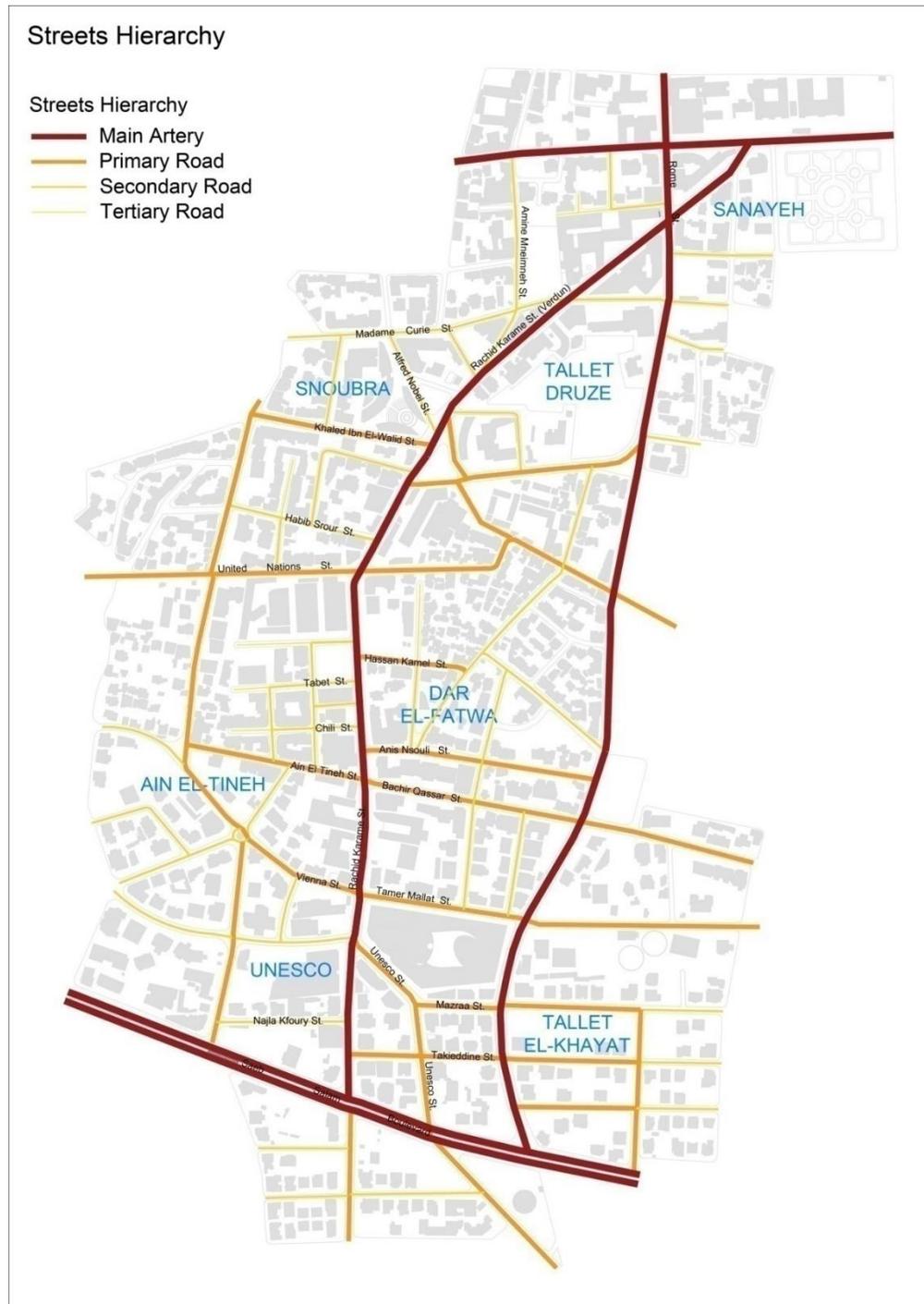


Figure 38: Streets Hierarchy in Verdun (Author 2019)

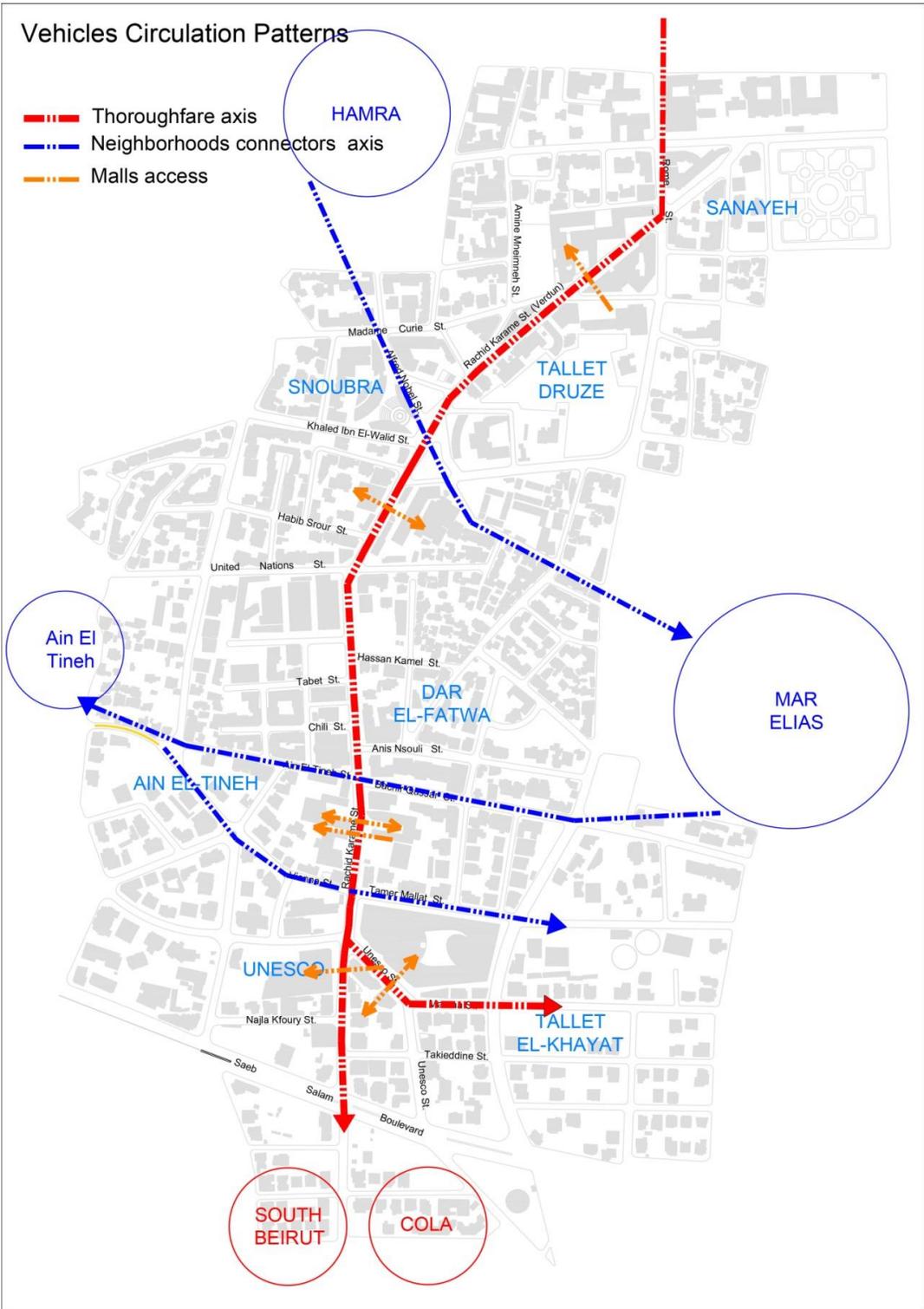


Figure 39: Vehicular circulation Patterns in Verdun (Author 2019)



Figure 40: Street Intersections in Verdun (Author 2019)

c. Traffic Load

Traffic load in Verdun Street varies during morning (8:00am), peak period (5:00-7:00 pm) and night (10:00 pm). The traffic decreases on weekends, however it remains relatively dense in the section between ABC, Dunes, Verdun 730 and Verdun 732. The most congested section of the street is the one extending from goodies to ABC. [See figure 41]

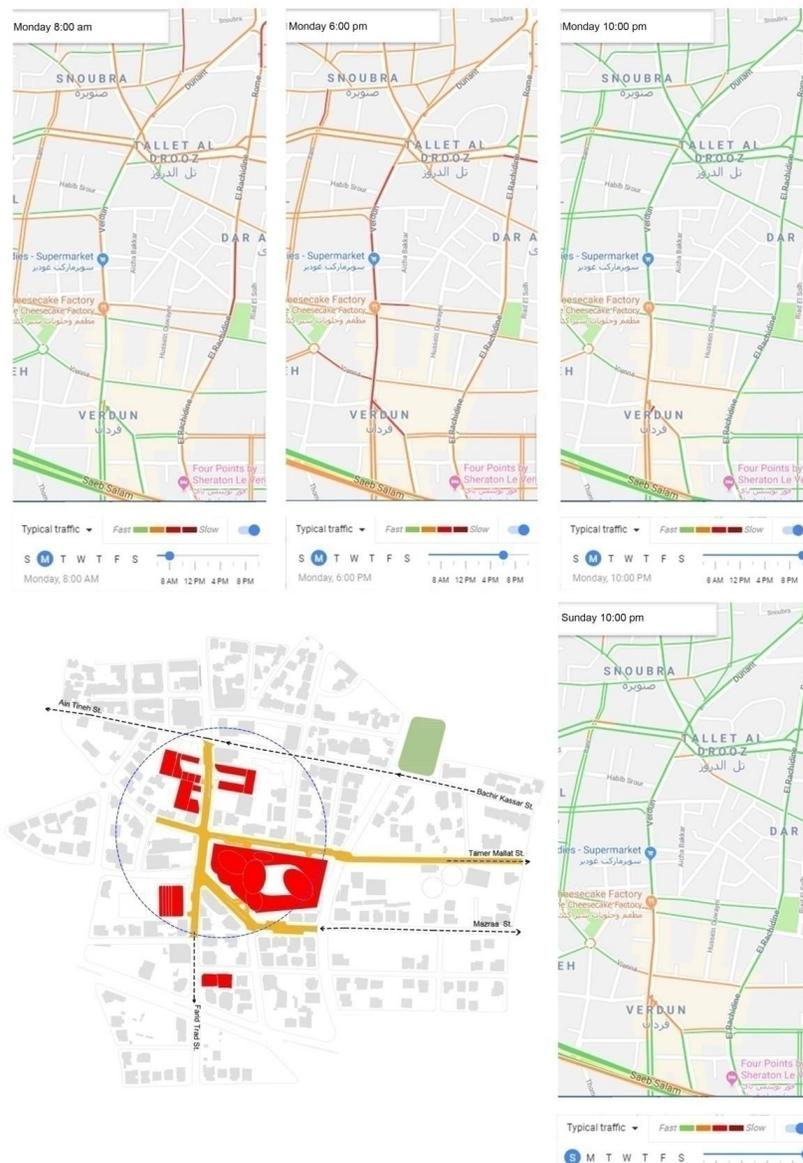


Figure 41: Traffic Map (Author 2019)

d. Road Width and Lane Management

In 1990s, Verdun Street was converted into one-way road with 4 lanes to accommodate for the growing number of cars, yet traffic congestions remained a problem. Currently the first section of Verdun Street function as 3 lanes road due to the illegal on-street parking along one side the street. The other section of the street, from goodies to ABC, function as a 4 lanes road where on-street parking are prohibited. In all sections of the street, there is no buffer zone between pedestrian zone and roadway. Furthermore, there is no differentiation between the lanes in Verdun street based on the function; lanes are used arbitrary for through traffic, access, and drop-off . This shows that traffic problems in Verdun are caused by the lack of traffic management and not the need for more spaces [See figure 42].

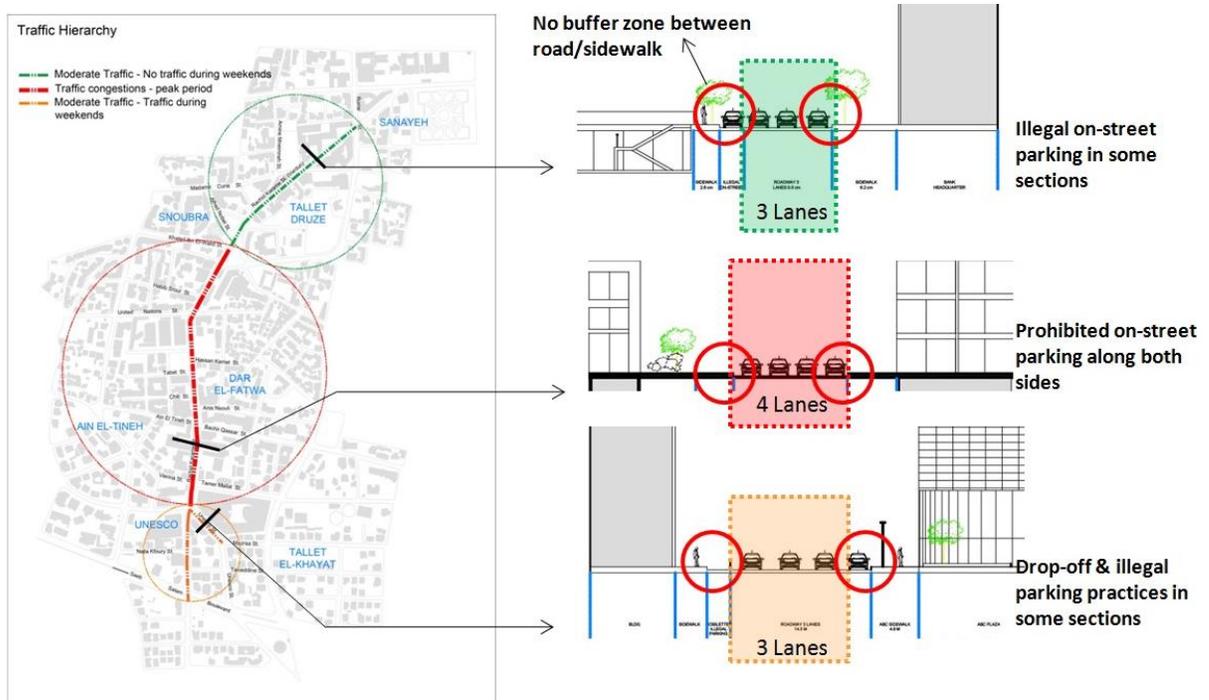


Figure 42: Road width and lanes management in Verdun (Author 2019)

4. Pedestrian Flow

Who uses Verdun Street? My interviews with street users revealed that the pedestrian flow in Verdun is limited to small number of:

- People living in surrounding neighborhoods (Hamra, Mar elias, Ain Eltineh) crossing through Verdun street. [See figure 44]
- People living within a walking distance (15 to 20 mins) from Verdun street going to the malls along the street (mainly ABC or Verdun 732) or people going to the offices buildings where they work. [See figure 43 and 44]

Only few of the interviewed pedestrians in Verdun use the street to walk their dog and to exercise.

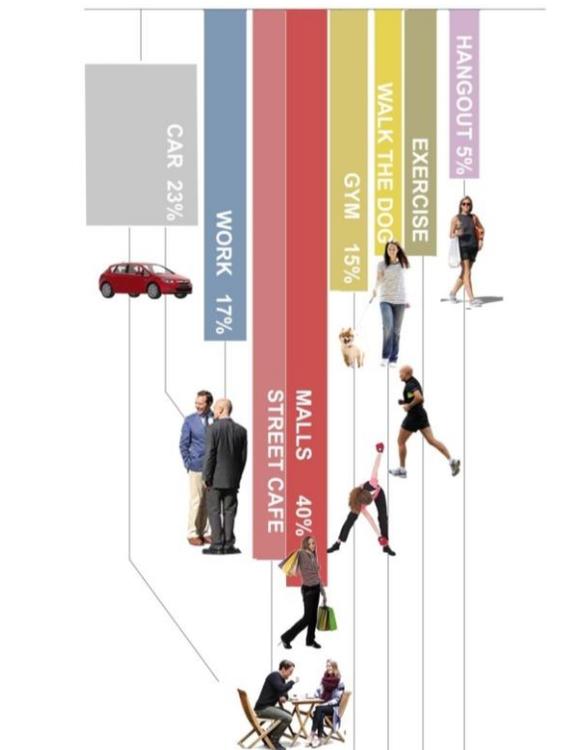


Figure 43: Reasons for walking in Verdun (Author 2019)

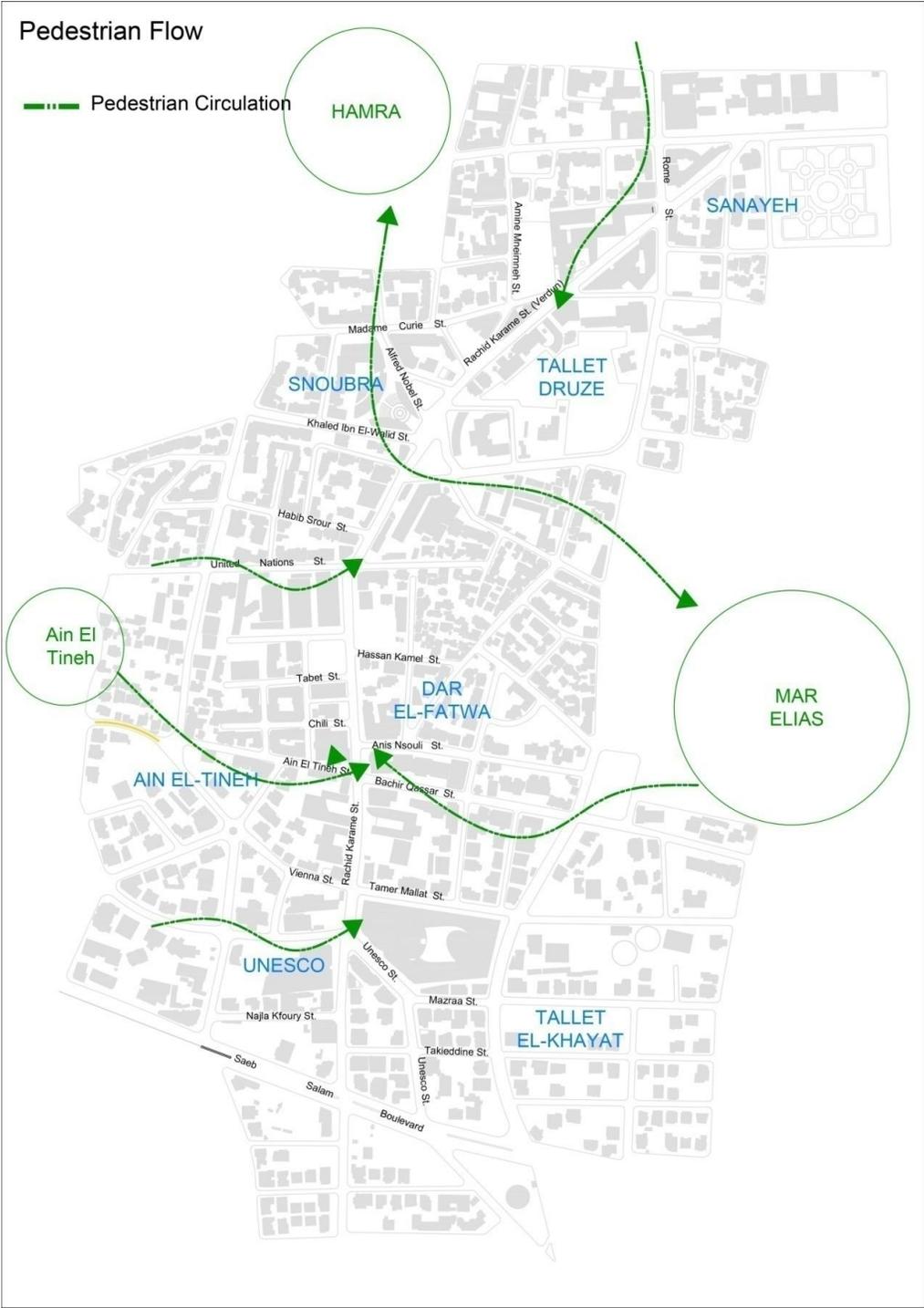


Figure 44: Pedestrian Flow in Verdun (Author 2019)

a. Pedestrian activity

How does pedestrian mobility shape urban spaces in Verdun? Pedestrian movements transform sidewalks from spaces for individual mobility into social spaces. According to Carmona et.al (2012): “*Opportunities for most forms of social interaction and exchange only occur once the car has been parked -prompting a focus on destinations rather than journeys*” (pp. 67). Sidewalks are also spaces for social encounter. When people walk, they become in contact with other people and they engage in the city’s public life (Jacobs, 1961; Carmona et.al 2012; Gehl, 2010). However, the analysis of the pedestrian activity in Verdun shows that the street lacks a connected pedestrian network. The street morphology in Verdun does not support any pedestrian-oriented activity and people are not encouraged to walk along this artery.

Gehl classified street activities into two categories: necessary and optional activities (Gehl, 2013). Necessary activities are “*an integrated, non-optional part of everyday*” activities (Gehl, 2013, pp.18) that take place “under all conditions”. Whereas, optional activities are “*recreational and fun*” (Gehl, 2013, pp.18) that are limited to “*good conditions*”. Based on walk-by observations conducted on different periods during the day and based on surveys with street users, Verdun street activities are mainly limited to necessary ones: walking, waiting for public transport, shopping. The majority, if not all optional activities: sitting in cafes, sitting on benches or secondary sitting possibilities and children playing to name few, were recorded in privately owned public spaces along the sidewalk and inside shopping malls, but not on the sidewalk itself. The Verdun urban analysis shows that there is no continuous pedestrian activity along the street. The

pedestrian activity is concentrated around pops, which signifies the discontinuity in the public network.

The street neither supports social activities nor commercial ones. The street is constituted of scattered active nodes generated mainly by shopping malls and more specifically, its open spaces, cafes and restaurants along the sidewalk. These nodes of activity are most vibrant during lunch break hours when they are used by nearby employees. Hence, Verdun street could be divided into several segments with different level of activity based on the presence or absence of pedestrian activity along the sidewalk [See figure 45]

b. Footpath Interruptions

Multi-story parking provided by commercial centers in Verdun does not only attract large number of cars and aggravate traffic problems, but it also disrupts pedestrian activity at the entrances and exits of parking. In addition, many residential buildings add to this problem since they provide parking with access from Verdun Street. [See figure 46]



Figure 45: Recorded Pedestrian Activity along Verdun Street (Author 2019)

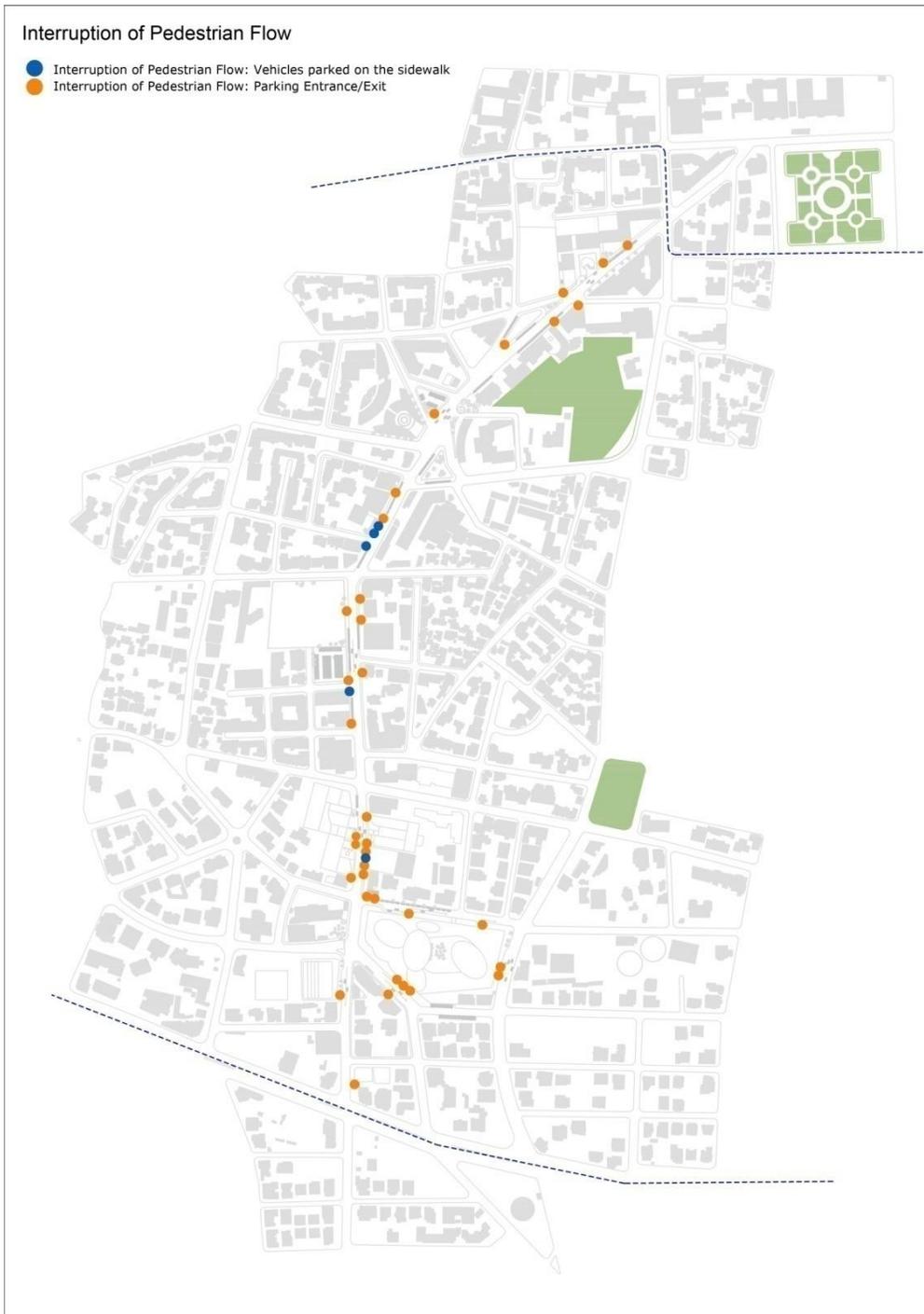


Figure 46: Footpath interruptions in Verdun (Author 2019)

5. Sidewalk Quality

a. Width

Sidewalks in Verdun are generally poorly designed, not well maintained and could not be used by individuals of all abilities. In some sections of the street, sidewalks are wide (around 3 meters) and have the potential to be well designed and furnished. In other sections, sidewalks become narrower (less than 1 meter). [See figure 47]

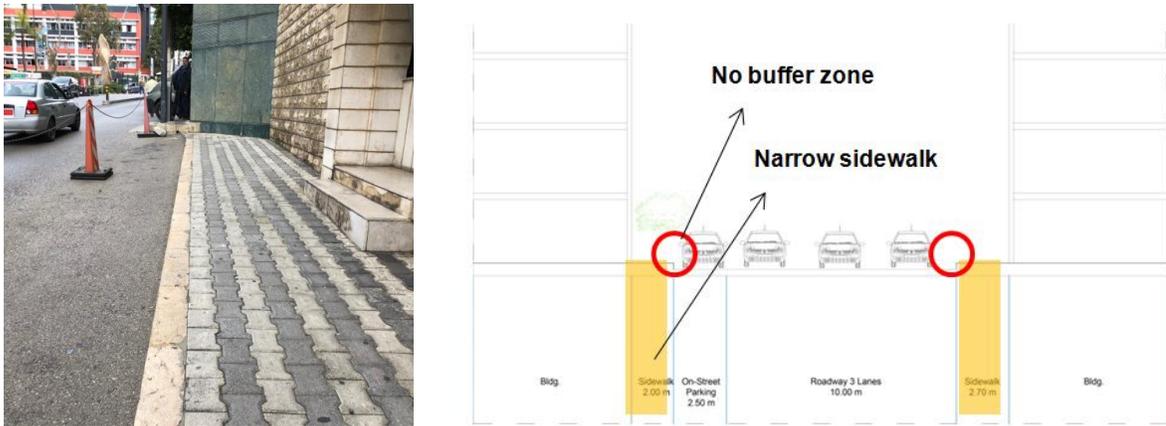


Figure 47: Narrow Sidewalks at some sections of Verdun Street (Author 2019)

b. Pavement quality

Sidewalks pavements in Verdun are generally of a moderate quality; however some sidewalks are of extremely low quality. Moreover, some sidewalks are constituted of different types of paving; this transition does not fulfill any aesthetic or functional purpose. What is very clear is the difference between the quality of paving of the sidewalk and adjacent privately owned public spaces. This simple transition plays an important role in defining the boundaries between public and private. [See figure 48]



Figure 48: Different Paving Quality in Verdun Street (Author 2019)

6. *Urban Furniture*

Verdun street lacks basic street furniture. People are not provided with benches or any sitting facility to use while walking in the street; sitting facilities are only provided by private spaces (cafes and restaurants). Softscape elements are limited to few trees scattered randomly along the sidewalks. Instead of functioning as an asset, trees in Verdun sometimes are placed in the middle of the sidewalk and interrupt pedestrian movement, especially when the sidewalk becomes narrow. Furthermore, the types of trees existing in the street are generally decorative and do not provide shade from sun or protection from rain. In addition, sidewalks in Verdun street lack lighting and some sections of the street becomes almost completely dark at night. According to street users, to improve the walking experience, the most important facilities that should be provided in the street were the

following: protection from weather and lighting at night. Siting facilities were not given much importance and this could be related to the fact that there are no entertainment facilities or activities that invite people to stay in the street.

7. Safety measures and security mechanisms

a. Street safety importance

Jacobs (1996) argues that when streets are unsafe people use automobiles as a protection, and developers focus on increasing the security of new buildings by making their design more closed and surrounded with fences to protect its residents or users from the street. Therefore, making streets safe does not only protect pedestrians but it also affects the morphology of public/private interface. When streets are safe buildings could be more open and connected to the street which in turn generates more activity along the sidewalk. However, ensuring security and safety should not eliminate the possibility of social interaction with strangers since its one of the main quality people seek in public spaces (Loukaitou-Sideris and Ehrenfeucht, 2009).

b. Sidewalk lighting

In Verdun, pedestrians consider the street to be safe at night, because of the presence of street cafes, few retails stores, and most importantly because of the surveillance resulting from private security guards of shopping centers along the street. However, as previously mentioned many street users noted that it is essential to provide lighting especially in inactive sections where street frontages are constituted of solid walls.

c. Pedestrian crossings

The biggest danger facing pedestrians in Verdun is generated by the overflow of vehicles commuting the street. Surveys showed that people walking in Verdun feel threatened by vehicles especially when trying to cross the street. As previously mentioned in the traffic analysis, although streets light exists, the street is too wide to be crossed safely, and car users constantly violate traffic regulations. Some drivers stop on zebra crossing and at some crossings where street light is not provided; cars don't wait for pedestrian to cross. [See figure 49]



Figure 49: Unsafe pedestrian crossings (Author 2019)

d. Security mechanisms

Several security mechanisms were detected in the street. For instance, Vienna street that leads to Ain EL Tinneh is blocked with check point at the entrance for political ends. Concrete blocks, fences, and walls are installed along the sidewalk at the frontages of some buildings such as the gendarmerie and the school. Metal and concrete blocks are distributed in some sections of the street to prohibit on-street parking. In addition, surveillance cameras are installed on almost all private buildings in the street. All these physical barriers and surveillance mechanisms increase safety for some groups of users, but disrupt pedestrian activity and decrease the publicness of the street by limiting people mobility with physical constraints and by constantly reminding people that the street is controlled and their practices are being watched. [See figure 50]

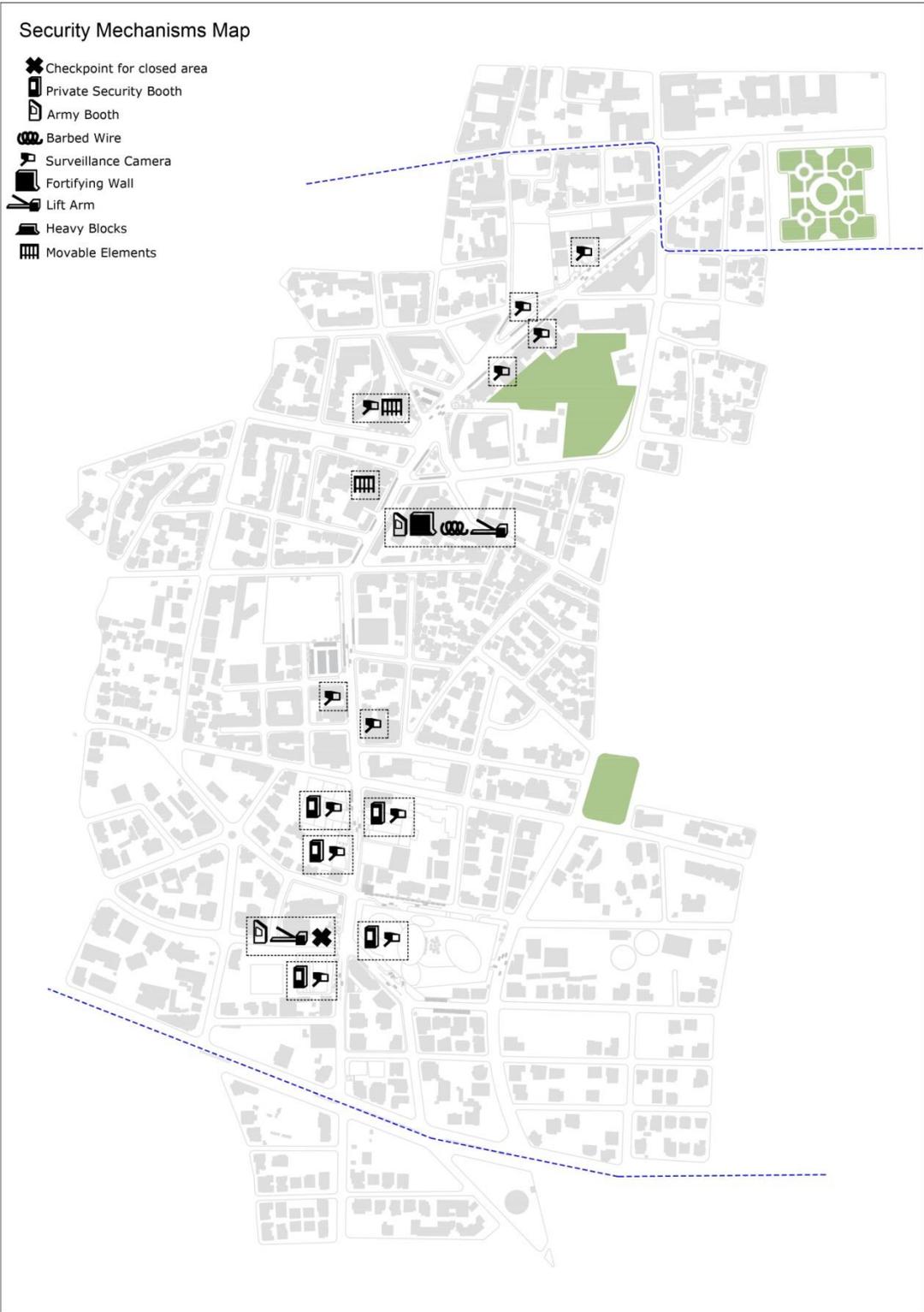


Figure 50: Security Mechanism in Verdun (Author 2019)

D. Conclusion: Criteria for Street Network In Verdun

1. Verdun Street: Strengths and Weaknesses

The analysis of the different layers of Verdun street network shows that the street suffers from several problems but, at the same time, it has many assets. What are the strengths and weaknesses of Verdun street? Strengths and weaknesses of Verdun street were formulated based on my observations of the practices taking place along the street and most importantly based on people's considerations and preferences derived from my interviews with street users.

Starting with the weaknesses, Verdun street lacks a continuous pedestrian network due to the design and quality of sidewalks. The street is very risky and unsafe to cross and this was the main threat chosen by interviewed street users. Furthermore, sidewalks are not protected from the vehicles due to the absence of buffer zone. As for the amenities provided, Verdun street lacks even the basic urban furniture such as sitting facilities, pedestrian signals, bollards and trees providing shade and protection from weather. In sum, Verdun street is a car oriented artery.

As for the assets, Verdun street intersects with various privately owned open spaces which constitute animation anchors for the street. The roadway in Verdun street is wide, which offers the possibility to widen the sidewalk when needed. Moreover, due to the presence of ABC and empty lots along the street, the provision of parking facilities is not very challenging. Finally, the street is considered to be safe at night due to the presence of active ground floor and security mechanisms provided by privately owned open spaces.

2. Criteria for Verdun Street

There is no doubt that Verdun street is not pedestrian friendly at all. However, It is important to recognize that the street is a through traffic artery, therefore any design attempt should maintain this function. Thus, the criteria for Verdun street was based on making the street pedestrian friendly while accommodating for the needs of different users: through traffic drivers, people living in surrounding neighborhoods and crossing through the street and people using it to access a specific destination. [See figure 51]

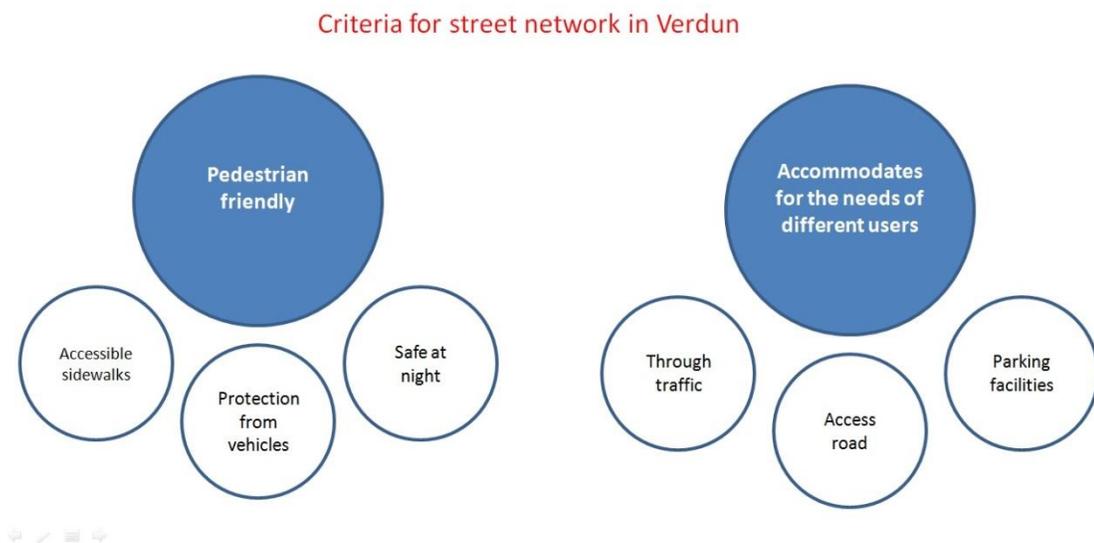


Figure 51: Criteria for Street Network in Verdun (Author 2019)

CHAPTER V

DESIGN INTERVENTION

The analysis of Verdun street has shown that the street has the potential to act as an integrated mobility/public space network with multiple animated hubs that improve the quality of pedestrian passages and urban experiences. In this chapter, and based on the criteria developed throughout the thesis, I first bring together my analysis of the road network and then propose an integrated urban design intervention.

My intervention envisions Verdun street at three levels: city scale, district and block level. The intervention covers, first, the mobility layer including both: the vehicular circulation improved through a traffic management strategy, and the pedestrian circulation upgraded through well-designed sidewalks. Second, it covers the open space layer and proposes an integrated public/private open space network. The design intervention provides, at the block level, a pilot/model for how a street level integration can occur between privately held open spaces and sidewalks. Finally, it provides guidelines for future large developments in Verdun, more specifically developments providing privately owned public spaces.

A. Character Zones along Verdun Street

By integrating the analysis of the street network and public/publicly used open spaces, it is possible to identify three character zones along Verdun, each presenting different challenges and potentials. These “character zones” allow each segment of the

street to develop its character, based on local challenges and assets, while maintaining the continuity of pedestrian and vehicular flows along this main urban artery. The identification of the character zones rests on the criteria for the assessment/design of public spaces identified in earlier sections.

- Section (A), Concorde-Verdun Gardens: This section of the street is used as through traffic and access road. The only privately owned open space is provided in Concorde. It is however inactive and empty most of the time and most shops below street level are abandoned. The main activity in this section is recorded along the street café, Lina's. The ground floor use of buildings is commercial, yet many stores are empty or inactive. Walkability conditions in this part of the street are poor, but the traffic is moderate most of the time, which reduces the challenges on pedestrian circulation.
- Section (B), Verdun Gardens – Goodies: This section of the street is mainly used as a through traffic road. Street facades are mostly inactive because of the ground floor use (residential buildings, parking, solid walls, empty lots). The few existing commercial shops are no longer operating. Walkability conditions in this section are poor and similar to the other sections, but the situation is aggravated by the inactive ground floor coupled with the lack of street lighting which reduce the feeling of safety at night. The only recorded pedestrian activity was for people moving along this section to reach another destination in the other sections.

- Section (C), Goodies - ABC: In this section the street becomes more vibrant with high pedestrian activity recorded along the sidewalk and in privately owned open spaces. This section is used as a through traffic and access road due to the various open spaces existing along the street. The most active anchor in this part of the street is ABC mall with high quality open space. What activates the street are not only privately owned open spaces but also the ground floor use that is commercial and active. Walkability conditions do not differ from the other sections but it is challenged by consecutive footpath interruptions caused by parking entrances and exits. In addition, this section suffers from traffic congestions at peak periods. [See figure 52]

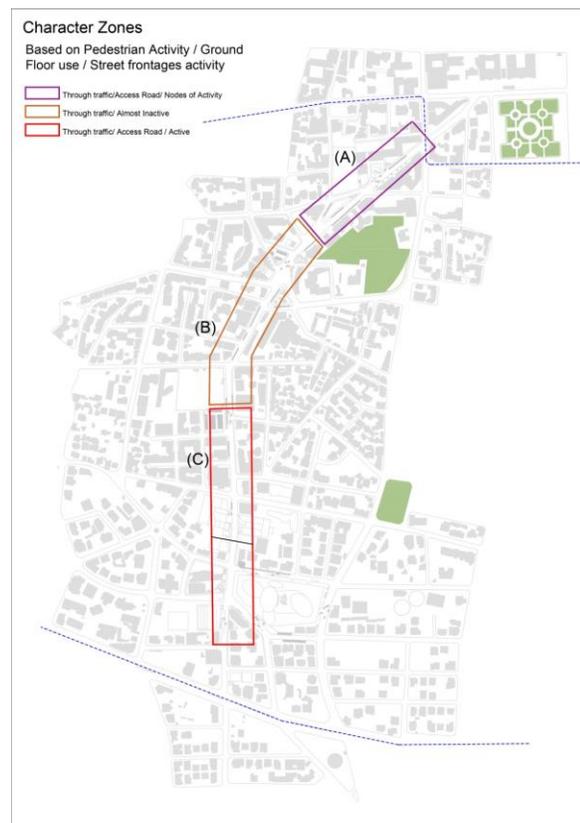


Figure 52: Character Zones for Verdun Street (Author 2019)

B. Vision of Verdun Street

The overall vision for Verdun street was developed to respond to the criteria derived from the urban analysis of open spaces and street network. The proposed concept envisioned the role of Verdun street at three different scales: city, district and block scale. Furthermore, it proposed guidelines that respond to the specific challenges and opportunities of each character zone and provided a detailed intervention of Character zone (C).

At City Level: Recognizing that Verdun street will remain at the short and medium term an “inter-district” through traffic artery, its vehicular function shall be maintained but contained. This was translated through a proposed vehicular mobility strategy that aims at managing traffic in Verdun and dedicate two lanes of the existing ones for through traffic use. This will facilitate the movement of through traffic vehicles without being interrupted by other uses of the street. Furthermore, improving the pedestrian infrastructure to enhance walkability along Verdun street.

At District Level: As “inner-district distributor” and “neighborhood street”, the connecting function of Verdun Street shall be enhanced through the improvement of sidewalks and open spaces linking blocks and mall entrances. This will encourage people, living within a walking distance, to walk instead of taking their cars. Furthermore, mall users will feel more encouraged to move from one open space to another, which consequently, will activate the open space network.

At Block Level: Integrate parking entrances to large-scale developments with adjoining retail frontages and access to quasi-public and public spaces. The network of

quasi-public/public spaces is designed based on the criteria derived from previous analysis and it is developed later in this chapter. In addition, providing guidelines that aim at integrating large-scale developments within the surrounding building context will improve the connection between private and public spaces and will encourage the pedestrian flow along the street.

As for the character zones each zone is envisioned according to its characteristics:

- Zone (A): Active zone to be potentially activated by revitalizing Concorde and enhancing the quality of its inactive open space. In this zone exists an empty lot directly next to Concorde that presents the potential for a large-scale development.
- Zone (B): Transition zone creating a seamless connection transition between the two commercial zones created through a well-designed pedestrian network.
- Zone (C): Active zone and main anchor in Verdun Street, characterized by a fluid connectivity between different types of open spaces. [See figure 53]

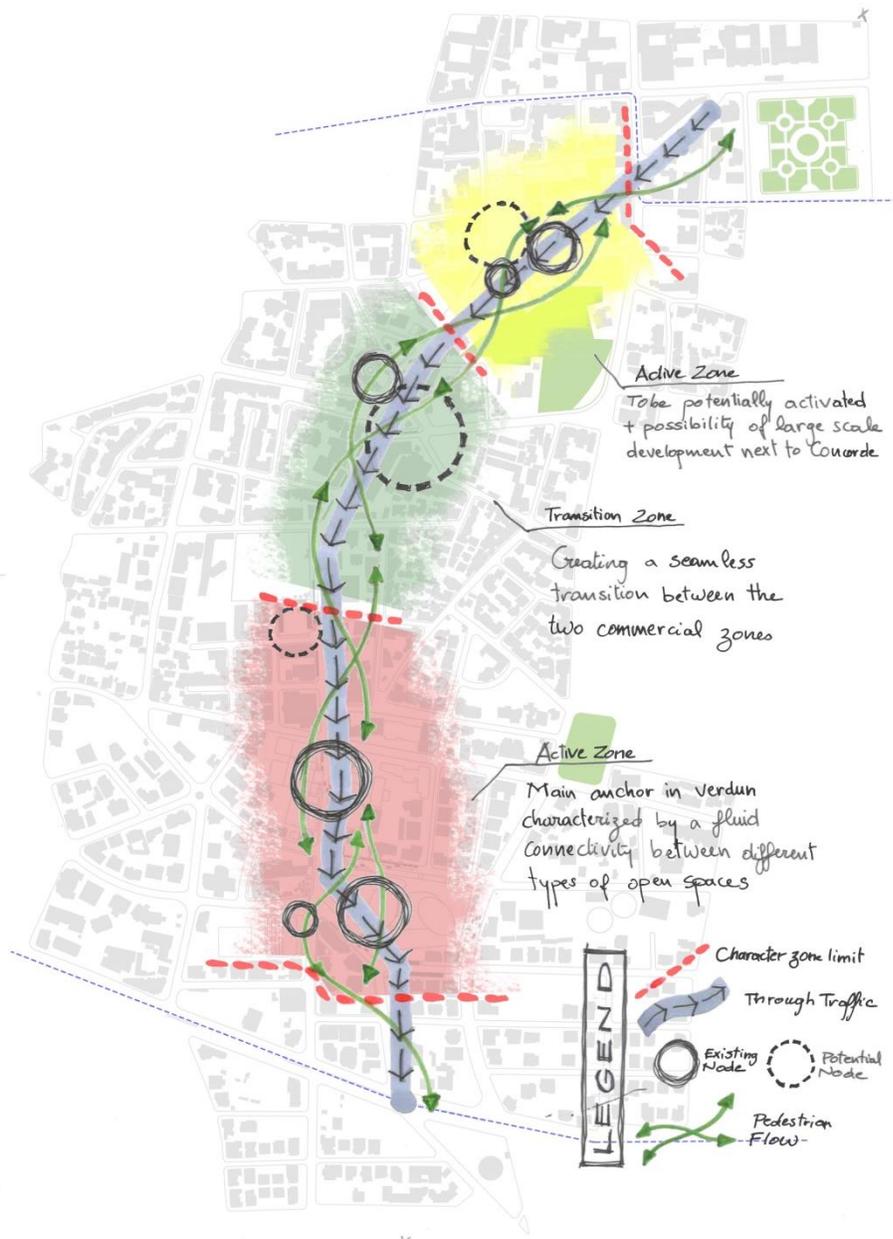


Figure 53: Vision for Character Zones (Author 2019)

C. Design Intervention

1. City Scale Design Intervention

In the intermediate phase and in the absence of a biking public transportation network, the overall strategy relies on maintaining the function of Verdun street as a through traffic road and works in favor of accommodating for the needs of all street users. To this end and building on the vision of Verdun street at city scale, I proposed a traffic management scheme for the artery. Currently the street is constituted of four lanes and at some sections of the street one or two lanes are used as illegal on-street parking. First, I propose to remove all on-street parking from the street and I instead introduce parking alternatives that I discuss later at the district scale. After removing on-street parking, I propose to divide roadway lanes into two main functions: through-traffic and access/drop-off and transit [See figure 54 and 55]. On the long run, a real traffic mobility scheme can turn one of these lanes into a dedicated bus lane that encourages the use of public transport in the city. This however requires the intervention of an urban designer.

- Two lanes will be dedicated for through traffic, which will maintain, organize and facilitate the vehicular mobility.
- One lane is used for alternating drop off points that will not interrupt the through traffic circulation. On the contrary, it will facilitate access to both sides of the street. I located drop off points based on the ground floor use and activity.

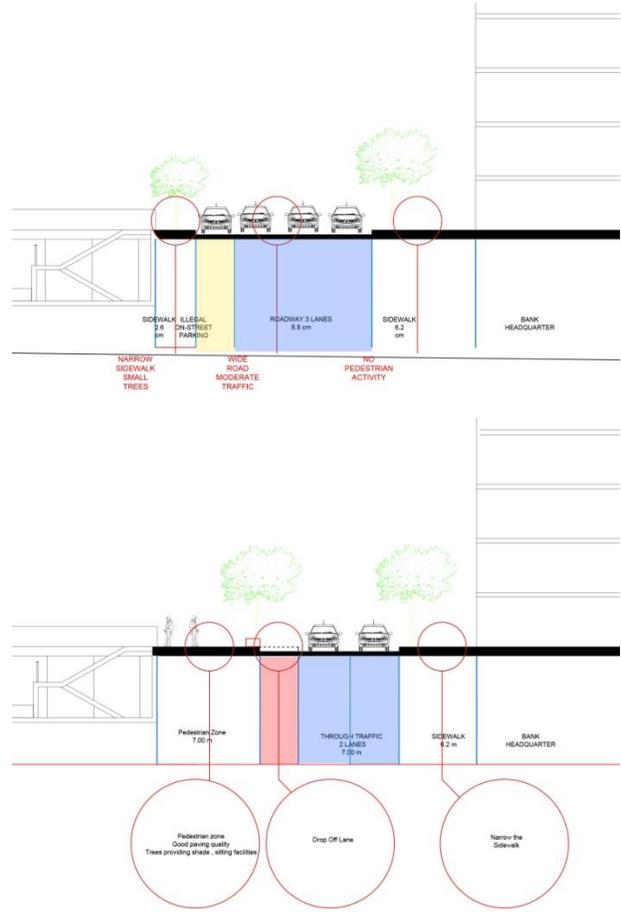
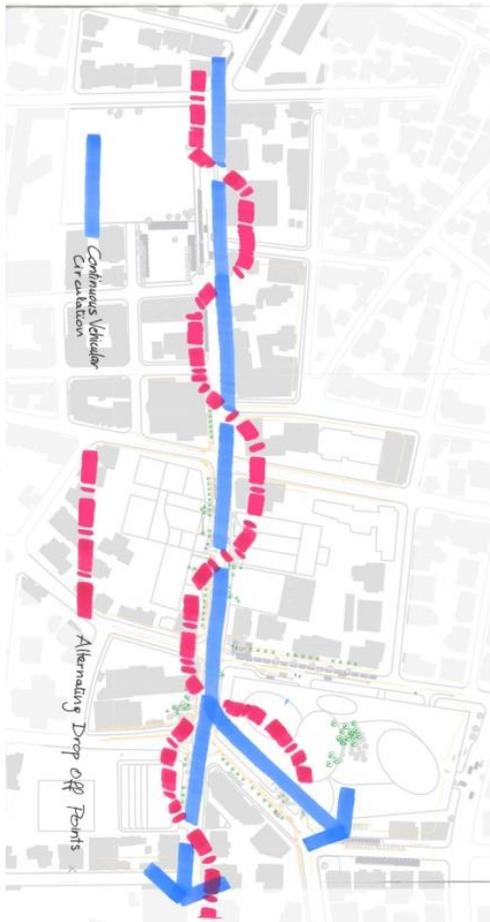


Figure 54: Existing and proposed street section (Author 2019)

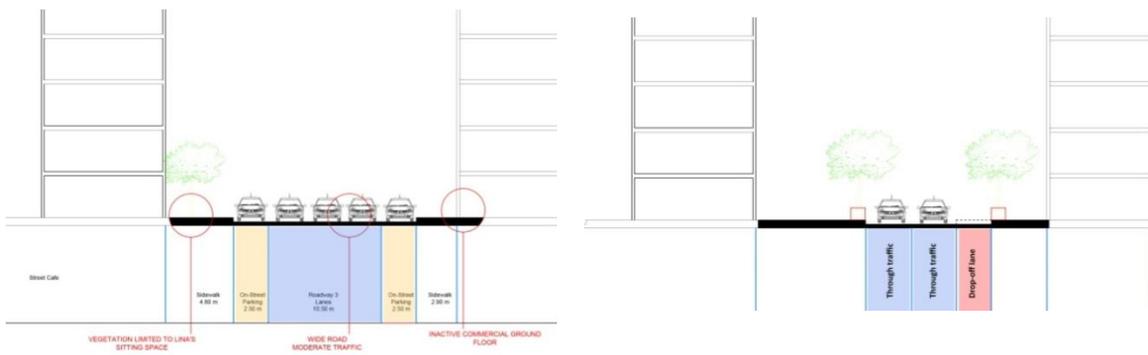


Figure 55: Proposed through traffic and drop off lanes (Author 2019)

2. District Level Intervention

At the district level, the intervention seeks to transform Verdun street into a pedestrian friendly street and enhance the pedestrian connectivity along the neighborhood. In my proposal I focus mainly on Verdun street itself, and I provide a general scheme showing how to enhance walkability in the street. However, same standards can be applied to the other streets in the neighborhoods taking into consideration their function as secondary streets and not through traffic roads. I propose:

- Parking strategy that aim at eliminating on-street parking, reduce footpath interruptions and organize the flow of cars.
- Pedestrian network strategy to make Verdun street pedestrian friendly and enhance the quality of the sidewalks.
- Open space network strategy that seeks to enhance the connectivity between different nodes of activity along Verdun street and to integrate privately owned open spaces with the network of public space (sidewalks), more specifically in character zone (C) where various typologies of open spaces are located (ABC, Verdun 730, 732, Assaf Center and Dunes)

a. Parking Strategy

Verdun is a city scale street, and therefore most of its users rely on private cars. Providing parking facilities in well-chosen locations along the street will first, make it possible to remove all on-street parking. Consequently, this will provide space to widen the sidewalks when needed and will reduce traffic congestions caused by on-street parking. Second, it will contribute to the traffic management in Verdun street by organizing and

controlling the vehicular circulation along the artery. Finally, it will limit footpath interruptions by limiting the number of cars accessing specific parking.

I propose the provision of three main public parking along the street:

- ABC with a capacity of 1700 parking space and three access roads. People coming from outside Verdun can access the parking from El Rachidini street and exit without having to enter to Verdun street.
- Two multi-story parking: one at the entrance of Verdun in the empty lot next to Concorde and one next to goodies replacing existing small parking.

As for the existing parking provided by shopping malls (Verdun 730, Verdun 732, Dunes, Concorde), I propose to restrict these parking to the buildings' users and do not allow for public access. By prohibiting the use of these parking as public parking, I limit the number of cars accessing these parking per day and therefore reduce the intensity of footpath interruptions caused by the entrance and exit of vehicles. Furthermore, I organize the flow of cars commuting through Verdun Street since proposed public parking are located at the entrance and exit of Verdun Street and one parking is located in the middle of the street. Instead of driving until the end of the street, people coming to Verdun can park their cars in the closest parking and walk along the street to reach their destinations. [See figure 56]



Figure 56: Proposed Parking Map (Author 2019)

b. Pedestrian Network Strategy

The vision at the district level aim at creating a pedestrian network that is well conceived in relation to the vehicular network [See figure 57]. According to the evaluation criteria developed base on the literature review and people's perception and in order to achieve this objective, I propose to:

i. Protect pedestrian zone from cars

- Widen the sidewalk when needed and creating a buffer zone between the roadway and the sidewalk. The buffer zone will consist of a planter that, besides its functional importance, enhance the aesthetical quality of the sidewalks.
- Place bollards when needed to prevent cars from parking on the sidewalk.
- Creating safe street crossings and provide pedestrian signals at major intersections and zebra lines at each intersection.
- Provide raised street crossings at the intersections to slow down cars moving along the street which will also act as traffic calming measure and will facilitate the movement between both sides of the street.

ii. Maintain street safety at night

- Provide street lighting and sidewalks lighting along the street.
- Implement interactive activities along the street which will attract people and consequently provides eye on the street.
- Avoid inactive and dull street façade such as solid walls and closed street frontages.

iii. Enhance the quality of the sidewalk

- Widen the sidewalk when needed and provide a minimum of 1.2 meters, in some sections, where the sidewalk has to meet the site constraints.
- Renovate sidewalks pavement especially those that are deteriorated.
- Create one paving pattern on the same sidewalk when there is no reason to differentiate.
- Provide curb ramps to make sidewalks accessible for users of different abilities.
- Remove obstacles such as removable elements, street signs and arbitrary place trees.
- Provide urban furniture such as sitting facilities to provide people with resting spots.
- Enhance the visual quality of the sidewalk by providing various types of vegetation: trees, planters and shrubs and by replacing solid walls with natural fences and green walls.

iv. Provide protection from weather through vegetation

- Plant trees that are wide and can provide shade from sun and protection from rain. Avoid trees that are small and decorative and do not serve any purpose.
- Place street trees at the rate of one tree for every 9 meters of street frontage by taking into consideration to permit for driveway approaches.
- Make sure that trees provide at least 2.5 m clearance above sidewalks and 4.5 m above street roadway surfaces

v. Animate the artery economically through an integrated program

- Envision a development strategy that could enhance activities along the artery in the abandoned/closed stores. For instance, introduce municipal programs to rent out stores into small co-working spaces.
- Impose taxes on closed stores owners.

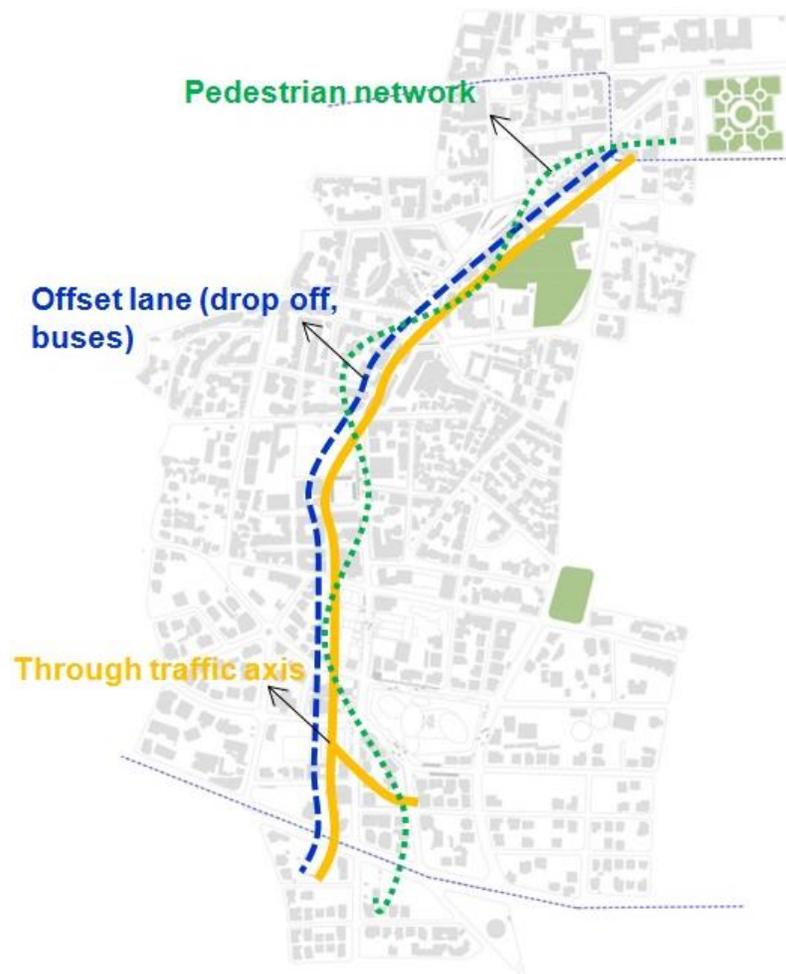


Figure 57: Layers of Mobility: Through traffic, Drop off/transit and Pedestrian (Author 2019)

c. Open Space Network Strategy

One of the most important assets of Verdun street is the presence of various privately owned open spaces along the sidewalk. These open spaces act as active nodes that have the potential to animate the street and enhance its activity. However, these open spaces are not well integrated within the network of public spaces (sidewalks), and some of these open spaces are currently inactive and fails to attract users especially after the development of ABC that sucked up most of the activity. I propose to create an open space network consisting of open spaces and public space (sidewalks). In other words, I propose to blur public/private boundaries between open spaces and the sidewalk through bringing the street to the mall, but also taking some aspects of the mall to the street. Thus, I propose to activate existing open spaces and enhance its quality so it could spill over the sidewalk and create good quality open space. Furthermore, I propose to enhance and facilitate the physical accessibility to open spaces. Pedestrians will feel invited to, smoothly, enter privately owned open spaces, which in turn will activate these spaces and create a vibrant and integrated open space network that is spatially well integrated within the surrounding urban environment. [See figure 58]

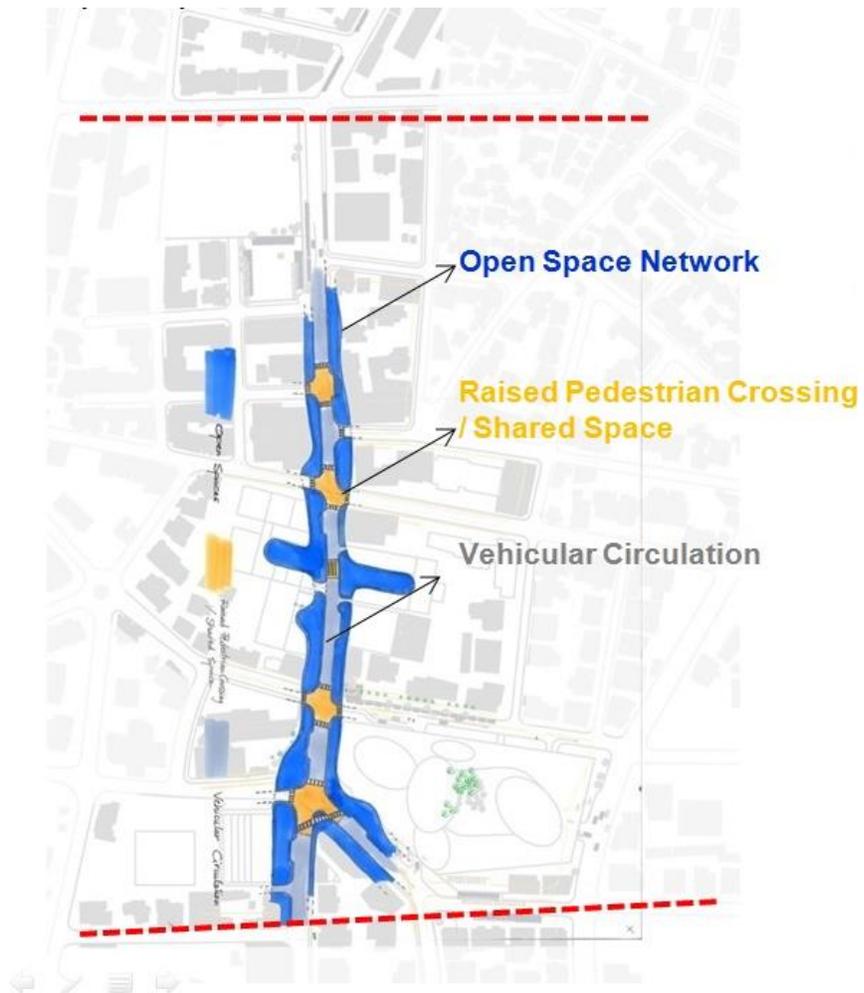


Figure 58: Open Space Network (Author 2019)

d. Guidelines for blurring the boundaries between open space and sidewalk

- Design the space as one layer and use the same pattern of paving for both: sidewalks and privately owned open spaces.
- Merge public/private spaces through continuous landscaping scheme guiding people to enter to the open spaces.

- Enhance the physical accessibility to the open spaces by removing fences and any type of physical barrier (planters defining the boundaries, removable elements, bollards, etc...)
- Eliminate the difference of level between the sidewalk and open spaces and replacing stairs with smooth ramps.
- Reinforcing the visual permeability by removing visual obstacles and by placing, inside open spaces, element of attraction that is visually connected to the street.
- Provide attractive amenities in open spaces that are not consumption based (cultural activities, entertainment, and sitting facilities) to attract people to enter and use the space.
- Keep the surveillance provided by one private security guard for each open space under the condition of not filtering users.

3. Block Level Design Intervention

At the block level, I propose a zoom in detailed intervention of the section extending from goodies to ABC, Dunes and Verdun Plaza 1 and 2. The detailed intervention in this section will follow the design guidelines proposed in the previous sections and it will show in details how to design the street based on the design criteria

developed in this research. In order to enhance the connectivity between various types of open space and to create an active pedestrian network that encourage people to move from one place to another along the street, I proposed three main pedestrian links: cultural/social, green and commercial link. Each link connects different types of open spaces [See figure 59 and 60]. I chose the theme and function of each link based on the open spaces that it connects and based on the aim of linking these spaces.

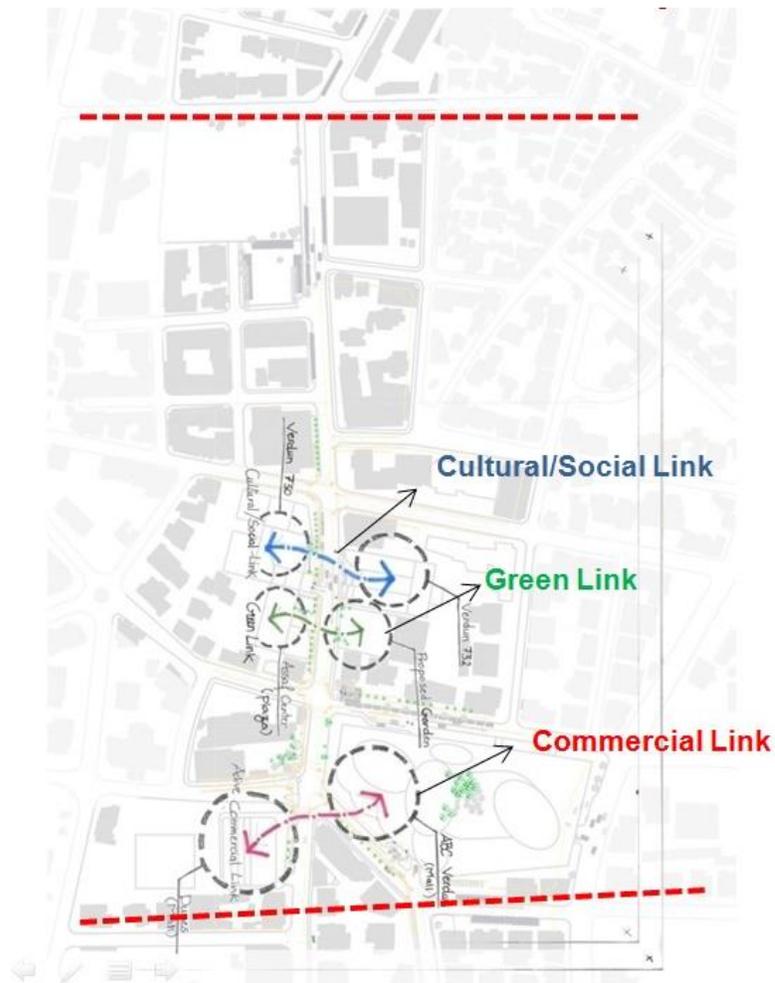


Figure 59: Open Space Links (Author 2019)



Figure 60: Proposed Plan for Verdun Street (Author 2019)

a. Cultural/Social Link

i. Existing Conditions

Although Verdun 730 and Verdun 732 belong to the same developer and were designed by the same architect, they function as individual buildings and they are under-performing. Moving from one building to the other is highly challenging due to the disconnection resulting from the wide and unsafe road separating these buildings and the lack smooth transition between the sidewalk and the open space. Several physical and visual barriers limit the accessibility to the open spaces: stairs with four steps to create access to raised open spaces, planters and trees defining the boundaries between public and private, different quality paving from the sidewalk, the inner spaces are almost invisible and lack proper lighting. What adds to this is the fact that inner shops are inactive and some of them are closed which gives no reason for people to enter.

ii. Design Intervention

The main purpose was to create a connected interactive open space and to promote a pleasant experience where people would feel attracted to enter and discover what is inside. Verdun 730 and Verdun 732 will provide a small artistic and cultural stop in Verdun. The design of this space aims, first, at facilitating physical accessibility by removing stairs, merging spaces by moving separating landscape elements such as planters and trees to the borders of the sidewalk, and removing fences and movable elements used for separation. Second, it seeks to enhance visual permeability by removing vertical obstacles disrupting the view to the inside such as trees and by improving lighting in the inner space.

Furthermore, a new concept was introduced through the proposed design that aims at animating the space and reinforcing attraction through creative and colorful large art installations. The new open space will be the anchor in Verdun 730 and Verdun 732; the new sensual and interactive design will transform the open space into a destination rather than just a circulation space. The art installations consist of huge lighting structures that provides creative lighting theme at night whereas, during the day, the bright and vibrant colors of the structure attract pedestrians and users and fosters a feeling of delight and safety as argued by the researcher Lee (2018). In Verdun 732, the lighting structure takes the abstract shape of a tree colored in yellow, blue, orange and turquoise, that is rooted in the underground level and goes up, through the void, to the upper open space. Whereas, in Verdun 730, the lighting structure will be a canopy hanging from the roof, extending from the inner space to the outside. [See figure 62]

The circulation between the two buildings is guided through a continuous paved pedestrian walkway. In addition, the furniture reinforces the identity of the space as a place for discovery rather than a place for staying through using moveable furniture (sitting facilities) to increase flexibility. [See figure 61]



Figure 61: Verdun 730, Existing and Proposed Design (Author 2019)



Figure 62: Verdun 732, Existing and Proposed Design (Author 2019)

b. Green Link

i. Existing Conditions

Assaf center is located directly next to Verdun 730 facing a residential building with large parking along the sidewalk next to Verdun 732. The residential building is not well aligned with the street frontage of Verdun 732 which disrupts the circulation along the sidewalk. As for Assaf center, the building provides an outdoor open plaza that is visually

permeable from the sidewalk yet inactive, not well maintained and perceived as the most private open space in Verdun. The space is killed by a large circular planter in the middle and a fence along the open space hindering the physical accessibility to the plaza. The paving is different than the sidewalk and it is of a low quality. The street café located on one side of the building is inactive, very close to the roadway and lacks landscaping elements.

ii. Design Intervention

The design concept of the green link is based on creating a breathing space and a meeting point along the street through two connected urban pocket gardens. The design proposes a radical makeover of the plaza and intends to create a natural environment that re-engage pedestrians and open space users into the qualities of public space. The two pocket gardens are Assaf Center's plaza and the space appropriated from the private parking⁷. The design of the green link enhances the free use of the open space where people's movement and direction are not guided by specific walkways. Conversely, the two complementary gardens and the connective part of the road are transformed into one integrated surface. All existing landscaping elements (planters and trees) and physical barriers are removed and replaced with a spatial composition of pavements, planters and benches.

Attraction is enhanced through large specimen tree planted in each garden as a focus of attention. The specimen trees will add intimacy and animation to the space, and

⁷ The shape and limits of the appropriated space is defined based on street frontage alignment of the parking with Verdun 732.

they will also provide shade and protection from rain for people sitting in the garden. The seasonal change will create familiar yet changing experiences. In Assaf Center, the visual permeability is maintained and enhanced through removing vertical obstacles and locating the specimen tree on the side and not in the center which responds to the circulation challenges. The green link is envisioned as a space to experience the social urban life in Verdun and engage people in public space. [See figure 63 and 64]



Figure 63: Assaf Center, Existing and Proposed Design (Author 2019)

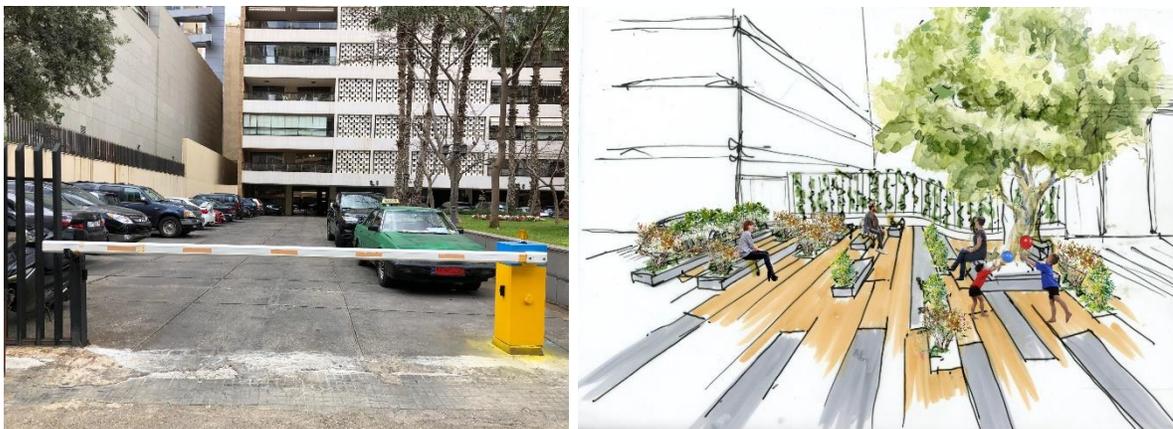


Figure 64: Existing Parking and Proposed Garden (Author 2019)

c. Commercial Link

i. Existing Conditions

ABC Mall and Dunes are both introverted malls. Therefore, open spaces along the street are limited to sidewalks and setbacks which makes it more challenging to create a connecting open space. To move between ABC and Dunes, people have to cross two streets. Sidewalks along ABC are designed mainly as a circulation mean that is well paved but lack urban furniture and landscaping elements, except for a tree and sitting facilities at the entrance. Moreover, the sidewalk along Dunes is narrow and used mainly for drop off. The only existing connection between ABC and Dunes is visual connection. People don't feel encouraged and have no reason to go outside these introverted open spaces or move from one space to the other.

ii. Design Intervention

The design envisioned ABC and Dunes as commercial destinations integrated within the outdoor space (street) through large pedestrian friendly space. The proposal reinforces the visual connectivity through an interactive visual corridor and a landscaping theme connecting the two buildings and shifting people's attention to the other side of the street. The landscaping theme consists of narrow trees and colorful lighting structures in form of tubes or cylinders. The design creates two spatial configurations for the lighting structures. The first one is a linear configuration, along the crossings which defines the visual corridor and therefore the pedestrian direction. The second one is an organic configuration, through which lighting elements are dispersed within the narrow trees along the sidewalks facing the entrances of open spaces.

The concept of activity is inspired by the colors of the lighting structures: red and orange that are usually used for commercial purposes. Furthermore, the design enhances the physical connectivity through a large interactive crosswalk stitching the roadway and the sidewalk. The pedestrian crossing consists of a raised colorful paving extending from the roadway to the sidewalks and starts to fade out gradually till it disappears at the entrance and the side of the buildings. [See figure 65]

The proposed commercial link shows that crosswalks should do more than simply connecting two sides of the street through enhancing the role of pedestrian crossings as a continuous element of the pedestrian circulation that could be animated and treated same as sidewalks. Thus, crossing streets could be more than safe, it could be fun and entertaining.

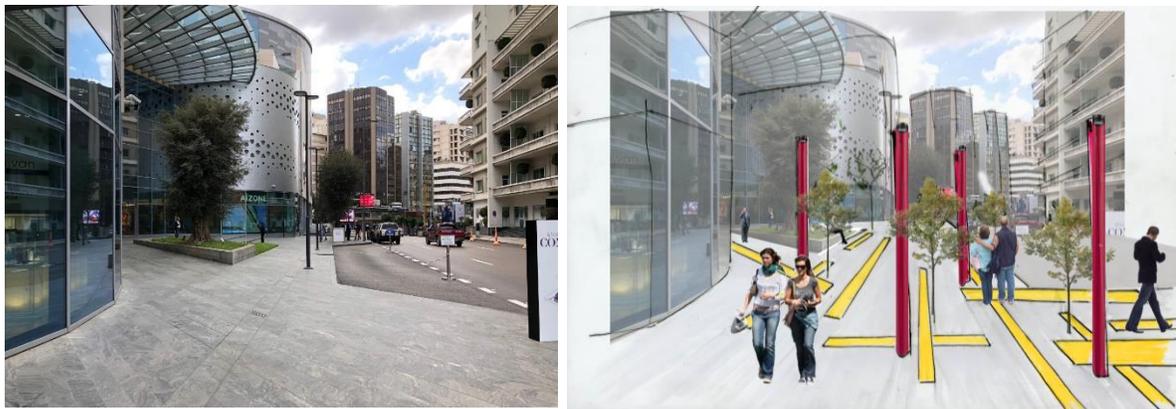


Figure 65: ABC Existing and Proposed Design (Author 2019)

D. Guidelines for future large developments in Verdun

- Incentive Zoning
 - Propose incentives for future large scale developments to provide open spaces dedicated for public use similar to the Incentive Zoning developed and applied in New York city. More specifically, encouraging the provision of setbacks to be used as public plazas in exchange for additional F.A.R.
 - Incentive zoning is only applied in the case of semi-closed open spaces and not introverted spaces, to encourage developers to provide open spaces that are open and connected to the street.
- Traffic Impact Assessment
 - Each large development publicly used should provide a traffic impact assessment to show how the building deals with the existing traffic patterns.
- Privately Owned Open Space Criteria
 - Open Spaces should be physically accessible from the street.
 - Open spaces should be visually permeable.
 - Provide amenities that are not consumption based such as: sitting facilities, cultural activities, small scale food kiosks.
 - Quality of open spaces to be maintained by private owners
- Street Frontages
 - Dull and solid street facades are not allowed.

- Break large facades into smaller units.

CHAPTER VI

CONCLUSION

The thesis attempted to investigate the effect of privatization of open spaces on the perception of public spaces in cities. In order to address the challenges arising from the privatization of public spaces, the thesis took up Verdun street in Beirut as a case study. The urban analysis of Verdun street showed that open spaces could not be evaluated as a separate layer but should be addressed in relation to the mobility network in Verdun. For this reason, I divided my analysis for Verdun into two main sections: open space network and mobility network. I analyzed these two layers based on the literature review and based on people's perception in order to outline the changing perception of public spaces and to derive a criteria for what makes an inviting public space and what should Verdun street prioritize. These criteria guided my design intervention.

The analysis of the open space network showed that Verdun street consists of scattered active and inactive open spaces that are neither well integrated with the street network nor has succeeded in attracting people except for the introverted mall ABC. The most important finding of my interviews was people's perception of an inviting public space. The ownership status of a space does not influence at all people's decision to use a space. As opposed to urban designers, people make no difference between privately owned public spaces or publicly owned public spaces as long as the criteria of convenience, accessibility and safety are met. What can we learn from the design and management of privately owned public spaces to improve the connective network of public spaces? In

Beirut, private developments, in general, have succeeded in providing good quality and successful open spaces that the public sector has failed to provide. Privately owned open spaces provides people with a quality space, a variety of activities and services and most importantly, it provides them with a controlled, safe and pleasant environment.

The analysis of the street network on Verdun showed that not all streets can prioritize pedestrians over cars as opposed to the literature review. In some contexts, such as in Beirut, streets should accommodate equally for both car users and pedestrians due to the lack of efficient public transportation system. The role of Verdun as a thoroughfare was maintained but contained. Roadway lanes were organized and managed in order to improve the quality of the pedestrian network. The latter was conceived and re-designed based the evaluation criteria that prioritize safety and protection from cars, safety at night and protection from weather.

These two analysis revealed that what is needed in Verdun is a comprehensive urban design strategy that integrates the quasi-public spaces of malls with their connecting network of public sidewalks and open spaces. Therefore, my proposal envisioned the role of Verdun street at different levels: city level, district level and block level. I redesigned to roadway to maintain the role of Verdun street as a thoroughfare at the city level. I created a pedestrian friendly network that allows Verdun to fulfill its role as an inner-district distributor and a neighborhood street at the district level. Finally, I enhanced the connectivity between open spaces, adjoining street frontages and public sidewalk at the block level.

In sum, Verdun street provides an example of how privately owned public spaces could be perceived and used as an asset for the street providing opportunities not commonly found in public spaces. It showed the importance of designing space not only based on the design standards but also, more importantly, based on people's perception and expectations of the space. Finally, the design intervention aimed at merging open spaces with the public network to create a one space that I called in this thesis: open space network without specifying whether it is public or private. However, this raises a critical question: when integrating privately owned public spaces with the public network and blurring the boundaries between these two spaces, are we publicizing private spaces or privatizing public space?

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