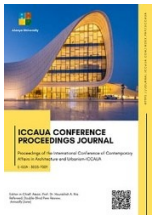


ICCAUA Proceedings Journal
Proceedings of the international conference of contemporary affairs in architecture and urbanism-ICCAUA

Volume 8 (December 2025), Pages 1490–1504
Journal homepage: https://journal.iccaua.com/

DOI: https://doi.org/10.38027/ICCAUA2025EN0013

Post-Traumatic Cities: The Sense of Inclusiveness and the Impact of Universal Design, Beirut from 1960 until 2024

Maria A. El Helou
Department of Architectural and Urban Design, School of Architecture, Faculty of Engineering, Aristotle University of Thessaloniki, Greece
E-mail: mariahelouarch@gmail.com

Received: 6 February 2025
Revised: 11 May 2025
Accepted: 18 June 2025
Available online: 5 July 2025

This article has been selected and peer-reviewed for publication in this journal as part of the 8th International Conference of Contemporary Affairs in Architecture and Urbanism, held on 8–9 May 2025 in Alanya, Türkiye.

Abstract

The aim of this study is to treat a significant gap found in Beirut in 2024: enhancing its inhabitants' sense of inclusiveness in its public spaces. One effective potential approach posited to achieve this aim is the implementation of Universal Design (UD). A questionnaire was distributed to 150 Biartis in order to understand what in their eyes are the changes in public spaces impacting the urban connectivity of Beirut and its inhabitants use of these spaces, from 1960 until 2024. The findings revealed that the prewar sense of inclusiveness in Beirut was higher and that major reasons for a lack of inclusiveness and urban connectivity include the lack of UD implementation tackling both the types of vulnerability and disability specific to the post-disaster Beirut and the evolution of the war-created urban fragmentation. The results contribute in defining the specific UD to implement to enhance the sense of inclusiveness in Beirut.

Keywords: Beirut Urban Recovery; Post-Traumatic Inclusive Cities; War-Torn Cities; Post-Disaster Urban Connectivity, Post-Conflict Universal Design.

1. Introduction

Cities that have experienced disasters are traumatised places; the varying levels of urban and architectural visible destruction mirror the disrupted interaction between the built environment and its users, mainly the inhabitants who experienced the pre-disaster urban space (Taylor, 2017). In the case of Beirut, the period spanning from 60s until mid-70s was referred to as "Golden Era". It indicates an urban experience within the city, ranked in this period as one of the most cosmopolitan cities in the Middle East (Maamari, 2020). However, the recurrence of disasters since 1975, the year of the beginning of the Lebanese civil war, led to a radical and multidimensional change in it, in particular in its urban and social connectivity and overall spatial organisation (Simak, 2021). Even though the civil war ended in 1990 (Maamari, 2020), "Beirut came out of the war period in 1990 naked; a total
disaster and a total desolation" (Husain & Nafa, 2020), it is observed that other post-war disasters contributed to the solidification of this urban change, which consequences resonate until 2024. These events include political changes affecting the development of Beirut, especially since 2005, and the third largest explosion in history in 2020 (Ludwig, Alvanides, & Laue, 2024). The latter occurred during the COVID-19 pandemic which had already dramatic repercussions on the international economy and society, and on the dynamic of cities. In the same year, Beirut has witnessed severe economic collapse, marking one of the 3 most severe worldwide bankruptcies since the mid-19th century (Daher, 2023).

It is observed that the lack of connectivity between the urban spaces resulting from both the war's conditions and the implemented postwar urban strategies in parallel with other kinds of disasters impeded the connectivity between the inhabitants and the use of public spaces which have the potential to be the node enhancing the sense of inclusiveness in the city and the sense of proximity between the neighbourhoods. In fact, public spaces have a crucial role in the city, including the potential to reflect the national image of solidarity and social exchange (Senem Zeybekoglu Sadri, 2017) and to convey a sense of peace, confirming at the same time the collective sense of presence in the city (Hossein Sadri, 2019). This means that at some point, the built environment of Beirut today conveys a sense of exclusion and absence. The sense of exclusion in the city is harmful for the city as a whole as it affects the personal and social aspects in it (Madanipour, 2018). This suggests that Beirut in its inclusiveness aspect is unhealthy, because the definition of *unhealthy*, according to Longman Dictionary of Contemporary English (n.d.), is the "not normal or natural and likely

to be harmful". Past research regarding this specific topic which explores Beirut's urban development, social evolution, and related sense of identity, with the dual objectives of reducing trauma and promoting inclusivity, is scarce.
Thus, this study looks at obtaining a healthy city by implementing the specific and effective urban and architectural elements in the built environment tackling the gaps impeding inclusiveness of the city in question. In this case, the application of UD, also referred to commonly as "design-for-all", on a specific city's case such as the war-torn Beirut, could be used as a potential approach. UD is in fact a design approach that seeks to provide necessary urban and architectural elements for people by treating built environments in a way to fulfil the spectrum of purposes and users in this specific built setting (Meşhur & Çakmak, 2018). Moreover, the UD approach ensures user-friendly and efficient settings, products, services, and interfaces for people of all ages and abilities, regardless of their specific circumstances or situations (Ahmed & Ergenoğlu, 2016).
The objective of this study is to detect the type of UD that would be useful to implement in order to enhance the sense of inclusiveness and urban connectedness of the neighbourhoods in Beirut. Therefore, the purpose of this article is to comprehend a human-centred approach, including the vulnerable who have suffered financial bankruptcies that affected greatly the social statuses and accessibility to the spaces of the city and the physically and mentally disabled as a result of the occurred disasters. To reach a full understanding of the specific UD needs in Beirut within this frame, a questionnaire was conducted with a representative sample of 150 Biartis coming from the 12 districts of Municipal Beirut. The participants were both born in Beirut and still live in Beirut. The questionnaire included both close-ended questions and open-ended questions, with answers analysed through MAXQDA 2022. The variables included gender, age group, religion, the presence or absence of disability and/or vulnerability, whether at a personal level or in the nuclear family, and the type the disabilities and vulnerabilities, physical and mental, specifying if it is disaster-related or congenital. By detecting the frequency of the variables and the frequency of keywords used in the answers, the findings evaluate what public spaces are significant to the participants for the connectivity in Beirut and whether the participants considered these spaces in Beirut as inclusive and easily accessible today, in light of both their personal and their relative's experience or the other, disabled or vulnerable, with the use of the space and the past disasters' consequences on the urban setting; this showed to which extent the city can impact the inhabitants' quality of life and their connection to the other inhabitant of the city. Moreover, the questionnaire evaluated the extent to which the Biartis perceive the presence of UD elements in Beirut that enhance their mobility in public spaces, and which ones they would find practical, hence facilitating their social interactions and meeting their everyday needs.
To explore this approach, this study will start by expounding the post-traumatic urban and social experiences, applying it to the frame of Beirut. The next section will explain the employment of UD in a city that experienced a traumatic event and the way it can influence the development of inclusivity among the inhabitants of the specific post-traumatised city. Then, the various events and disasters that occurred in Beirut from 1960 until 2024, encompassing their impact on the urban damages and the consequent public space use will be scrutinised, based on past literature, observation regarding Beirut today and the common narratives around it, and past personal 2-hour interviews asking Beirut-native experts in the history, anthropology, urban planning, and architecture of Beirut to narrate about the development of Beirut from 1960 until the day of the interview as detailed as possible to see what key elements they will mention about Beirut, its spaces and their use, and its social dynamic evolution. Moreover, this section will delve into key factors that led the Biartis to feel included in Beirut. Following this section will be elaborated the questionnaire results and analysis of the findings. Finally, the concluding section will suggest informative guidelines of practicable application of UD for an inclusive public space use in Beirut through the connectedness of the social and urban milieu.

2. Post-Traumatic Urban and Social Experiences

In Beirut, it is observed that the predominant concept adopted among investors and authorities involved in the decision-making of a post-disaster city is that traumatic events causing the destruction of cities provide opportunity for a subsequent rebuilding, promoting by that their perspective that a devastating disaster allows the city to be reborn with a more modern façade. However, it is essential to reconsider this concept and analyse its consequences, since, according to Anguelovski (2013), the inhabitants of a traumatising urban experience can face "place attachment disruption" (p. 215), especially regarding their experience of the shared public spaces, which can disturb the sense of communal connection and engagement in the built environment, and the access to regular public space use. It is interesting to see that the term used was not "place detachment", and it reveals that the inhabitants would express an attachment to the post-traumatised city; however, it will be at some point distorted if not treated adequately. Indeed, when the city's role become limited to earn money and receive in return limited access to social activities, it becomes unidentified in the eyes of its inhabitants (Sönmez, 2020). This indicates that the concept of place attachment is dynamic and takes time to be built with integrity, varying with the change of its built environment and its space use (Hossein Sadri, 2019; Sönmez, 2020). Indeed, the built environment serves as a dynamic structure following events where the inhabitants evolve their holistic experience in the city around both tangible and intangible urban elements (Onesty, 2017). Thus, a dynamic relationship is established between the physical infrastructure of a city and the experiences and behaviours of its residents, shaped over time, creating a sense of familiarity to certain spaces that will gradually gain increasing collective meaning. In fact, the collective meaning influence how inhabitants interact with their city and how strongly they identify with its places, i.e., feel included in it and belonging to it as a community and as individuals (Peng, Strijker, & Wu, 2020). Here lies the importance of facilitating the access to public spaces to reach the highest number of interactions of its inhabitants and come to a harmonious urban connectedness and personal and collective growths, especially after traumatising events on an urban scale, which reach all the inhabitants of a city. This is especially important in Beirut, where the inhabitants had a number of mixed areas, i.e., areas where both the Christian and the Muslim communities live together, and had the same public spaces to frequent, and were completely separated starting 1975 by sectarian communities, each living in a different "side" (east or west Beirut), for 15 years of war. More specifically, looking at

Beirut during the war spanning from 1975 until 1990, the main public spaces, such as the Martyrs' Square area and the main souks of the downtown, among others, were used as spaces for the major armed conflicts and for the delimitation of a virtual demarcation line separating the city in a sectarian way. Until today, it is observed that the neighbourhoods are urbanely divided, due to the long-term settling, even though every inhabitant can cross any area of Beirut. The divisions led to the development of the city with disconnected structures following the executed construction during the war, including rapidly constructed buildings and road structures, hampering the easy access to spaces that were once symbolising the city-for-all. Moreover, the use of the main public spaces of Beirut permanently changed due to the postwar built environment structures around them, added to the change of purpose of these spaces that serve henceforth high-rise buildings or certain socio-economic classes rather than being easily accessible to the entirety of the inhabitants, as it was the case in the prewar period.

Taking into consideration that Beirut still experiences disasters on different levels, until 2024, it can be inferred that the integration of redevelopment approaches for the continuous post-traumatised city, following a comprehensive examination of the impact of the occurred disasters on post-traumatic experiences within the city and the planning procedures pertaining to the inhabitants' identification to their pre-traumatised and post-traumatised city, is critical for the restoration of the emotional bonds with the city; this is in fact what Peng, Strijker, and Wu (2020) refer to as the place identity, which, in this study, would be achieved through enhancing the inclusiveness in public spaces. Therefore, to ascertain whether affiliation with a particular space is acceptable or unacceptable, it is assumed that people involved in the city's construction after a disaster must have a sense of constructive interaction with the "Place" along with a relationship between the city that is serving its role of strengthening feelings of inclusiveness and belonging. Since people need an identity continuity, to the point of using narratives of nostalgia to the past (Smeeks & Verkuyten, 2015), a way to feel inclusive in these spaces again, conferring its prewar meanings, will be looked at, using UD to achieve it.

3. The implementation of UD for post-disaster inclusiveness and reconnection for inclusiveness in the war-torn city, looking at Beirut's case

Universal Design, in general, not only facilitates the personal use of the space, but also reintegrates people equally to the city's spaces, contributing to its social redevelopment (De Souza, & De Oliveira Post, 2016). As observed, cities in general are incorporating elements of inclusiveness, encompassing UD elements, albeit to varying degrees of prevalence, and in specific places of the city; this observation was also mentioned by Jones (2014) and De Souza and De Oliveira Post (2016), who state that the historically and presently urban designed environments are mostly limited to minimal adjustments, and that these adjustments favour particular physical disabilities over others. It is clear that if this limitation affects the inhabitants of a city that has not experienced a major disaster, it would affect at a greater extent the inhabitants of a post-traumatised city. Indeed, despite the fact that urban strategies for inclusiveness are targeting people with reduced mobility, in a general meaning of the term, it would be in the case of post-traumatised cities important to determine who the vulnerable and disabled are, in more specificity of cases to promote inclusiveness within this particular urban demographic. Hence, added to the widespread normative patterns, among the vulnerable population that warrants attention in the post-traumatic planning of a city that aims to implement UD are, as seen in Beirut's case: those who have experienced physical or mental injury due to disasters, i.e., the loss of body parts or parts of their personal identity, as well as those who lost their rooting point of reference, such as their common spaces of socialisation, and those who are unable to access public facilities or even the most basic necessities of a socialising city life (e.g., green spaces or public spaces) due to financial reasons.

It is worth mentioning that, in Lebanon, the norms developed for inclusiveness target solely people with visible physical disability. The Law 220/2000 for the Rights of Disabled Persons was enacted by the Lebanese parliament to ensure the implementation of the normative aspect of UD in public spaces and buildings; however, currently, even these fundamental normative requirements for inclusiveness are not yet met in Lebanon (El Ahmad, 2024), including the capital city Beirut. Moreover, it is observable that people without physical disabilities encounter as well difficulties to move around the city and access a number of its public spaces.

Tackling UD implementation by including the population affected by these particular cases is especially crucial in war-torn cities, because, contrary to a city with a non-disaster continuous trajectory and where the outcomes are expected during studies, it is assumed that the war-torn city engenders differences between inhabitants that suddenly and dramatically increase due to injuries and losses that disproportionately occur, significantly altering both the personal, the social, and the urban's overall trajectory. This would affect the image of the city, its identity and its residents' identity and the resulting greater proportion of inhabitants' experience of alienation and rejection from physical injuries or economic disturbances that hinder their once usual daily movement and activities. The UD will serve in this case, not only for normal accessibility, but also for personal and social recovery and for reconciliation with the city's spaces. Therefore, it would be interesting to delve deeper on the evolution of Beirut's urban spaces and dynamics, especially from the 1960s until 2024, through written facts and through common and experts' narrations of this evolution to see where lies the focal events and factors in the eyes of both the experts and the inhabitants experiencing the space.

4. Beirut from 1960 until 2024: a radical change of demolition and construction of a city and its inclusive public spaces

Through common narratives and insights gathered from interviews with specialists Moubarak (personal communication, December 5, 2017), Moussalli (personal communication December 7, 2017), Fawaz (personal communication, January 6, 2018), and Zamzam (personal communication, July 8, 2018), it is clear that Beirut is a capital city that has endured numerous disasters, and it has experienced significant image and identity challenges, especially from 1960 until 2024. Therefore, it would be valuable to examine and unveil the essential phases of Beirut during this period that altered its

urban evolution and to look at the urban settings which influenced the Biartis' feeling of being included and belonging to their city.

In fact, the aforementioned experts, added to common narrations heard in Beirut, stress on the fact that Beirut, given the name of "the Paris of the Middle East" in the 1960s, reached a peak of an image of a cosmopolitan city, a luxurious city, a fashionable city, a cultural city with freedom of speech, and a city for entertainment for all during the 60s. This cosmopolitan image of Beirut is confirmed in numerous studies, among them the studies of Albarakat (2020), Bădescu (2020), and Maamari (2020). However, as the war began in Lebanon on April 13, 1975, the capital city Beirut reflected the image of a sectarian separation by becoming divided into 2 areas with a virtual line, a demarcation line called "intersection of death" (Larkin, & Parry-Davies, 2019), or the "Green Line" as a vegetation line grew in the space abandoned by its inhabitants and where the most violent sectarian battles took place (Ghanem, 2021; Hassoun Abou Jaoude, & Rugo, 2021; Hindi, 2023).

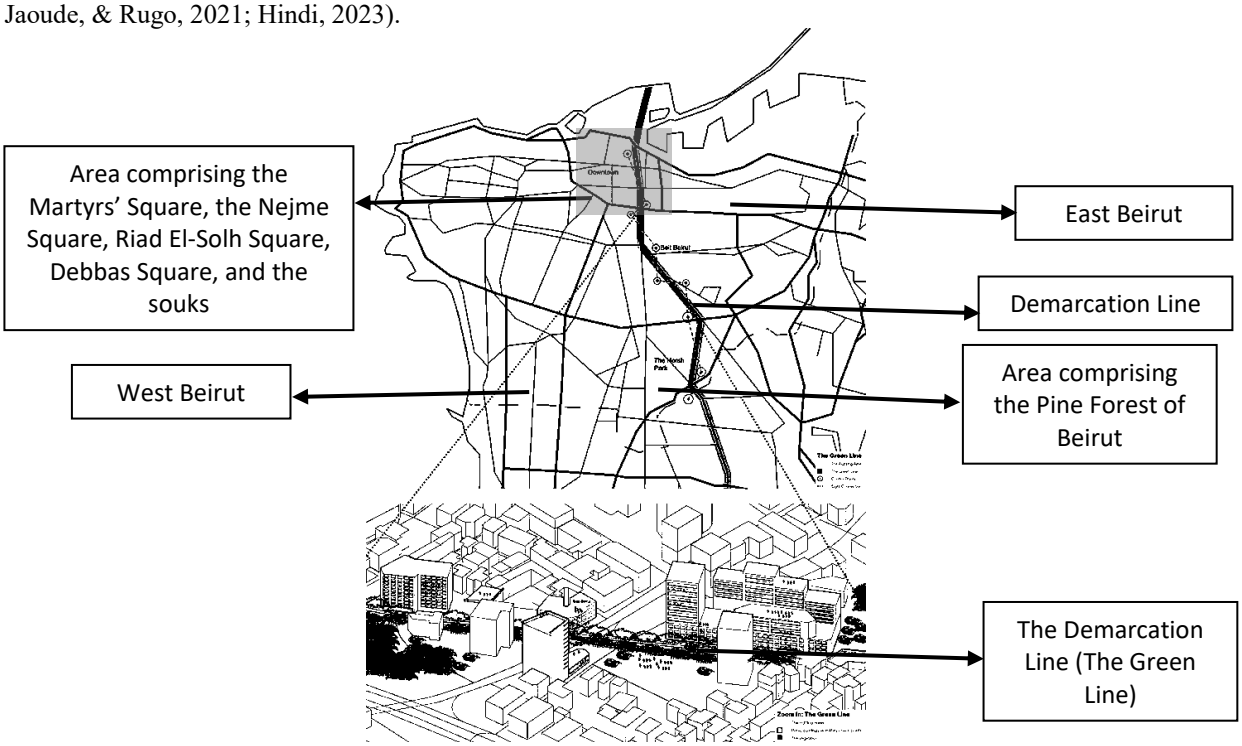


Figure 1. Map showing Beirut's demarcation line of the war and the main central zone of conflict, including meaningful public spaces used in the prewar period, as common narratives mention (Source: K., Bak, R., Berisha, & A.M., Grimm, 2022). Modified by author for enhanced readability.

This line, as visible in Figure 1, was situated in the central area of Beirut and passed from main prewar public spaces such as the downtown souks, the Martyrs' Square, the Nejme Square, Debbas Square, Riad El-Solh Square, and the only natural green public space of Beirut, which is the Pine Forest. Because of the forced moving, Beirut became sharply divided between the *Gharbiyyeh* - referring to West/Muslim Beirut - and *Charqiyyeh* - referring to East/Christian Beirut (Hassoun Abou Jaoude, & Rugo, 2021; Hindi, 2023). Consequently, non-inclusiveness of the population in certain spaces, where, according to common narrations, they will be called "the other", was being reinforced gradually within the war-formed sectarian neighbourhoods. It is concluded from these common narrations that with the creation of public spaces inside each side of the city, Beirut during this period evolved in a way to have public spaces at the scale of neighbourhoods, such as using the voids between buildings. As a result, Beirut didn't erase the concept of inclusiveness because it is apparently marked in the Biartis' concept of city; however, it became a city with 2 dynamically diverging inclusive urban spaces: west-inclusive and east-inclusive.

Figure 2. The Green Line, separating Beirut and affecting the use of its central public spaces (Source: M. Deville as cited in W. Sinno, 2020, p. 197).

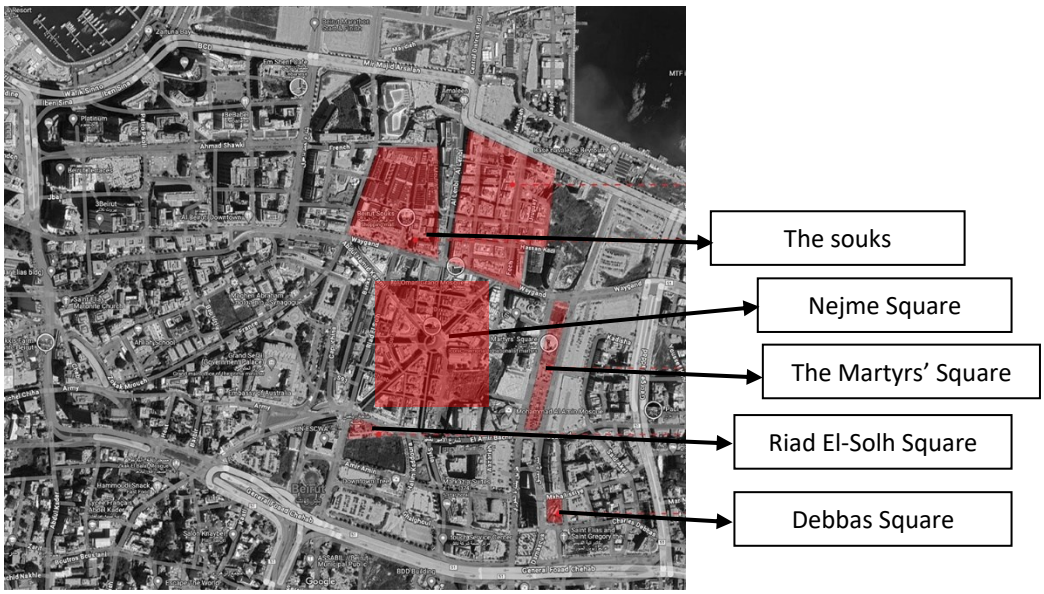


Figure 3. The downtown of Beirut, called today Beirut Central District (BCD). The public spaces, as the spaces of shopping, offices, and residence, are abandoned during the war (Source: J. Choueiri, 2024, p. 10). Modified by author for enhanced readability.

At the end of this 15-year war, Beirut was found with a significant number of vulnerable and disabled people. 300,000 individuals were injured (Gaub, 2015), added to the properties and financial losses, and the loss of public spaces.
At the downtown specifically, where the spaces of socialisation comprised the access of all the population, demolition and construction work started in 1992 to restore some buildings on the one hand and make way to a reorganisation of the city that comprises new urban and architectural projects on the other hand (Moussalli, personal communication, December 7, 2017; Fawaz, personal communication, January 6, 2018).
In fact, common narrations mention that constructing the afterwar Beirut was characterised by economic class division, added to an increased sense of individualism. This is clear in the main public spaces, where, according to common narrations, the souks (Figures 4 and 5) were social-selective and the once known small shops of foods and drinks were replaced with expensive restaurants. Based on the photographs and on observation, the rise of private buildings is more opulent in the image of the city than the now more diminishing public spaces, where voids were accessible public spaces of children and adult socialisation replacing the main public spaces (Figure 6). Moreover, the public transport routes, including the tramway, which already was stopped shortly before the war, were repurposed for cars, and it is also observed that pedestrian roads were also diminished to make way for private cars routes (Figures 7 to 11).

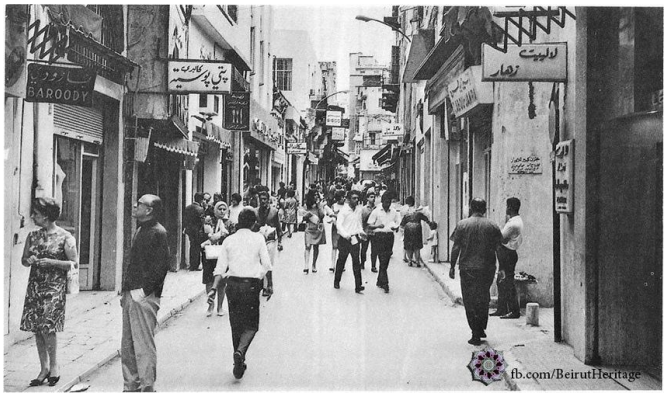


Figure 4. Prewar Beirut: Souk El-Tawile. The 60s, the decade from which this photograph was taken, represents an era with the highest experienced level of inclusiveness in the centre of Beirut, according to Biartis' common narrations (Source: Beirut Heritage Association, 2020).

Figure 5. The afterwar Souk El-Tawile (own photo, 2018).

Figure 6. Between the traditional (in front) and the high-rise buildings (in the background), less plots and voids are available as spaces of meeting in the postwar period of Beirut due to the increasing value of the real estate (own photo, 2018).

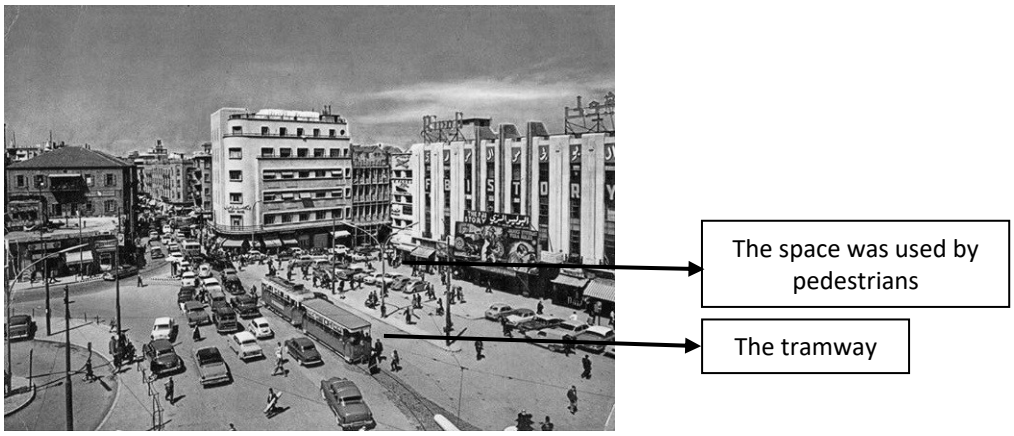


Figure 7. The Martyrs' Square in the 60s (Source: unknown author, 1960).

Figure 8. The afterwar Martyrs' Square, difficulty accessible because it is surrounded with highways purposed only for cars. In its middle, a project of construction impedes its use as an inclusive space. Crossing the road to reach the Nejme Square and the souks is also difficult (Source: Solidere, 2023).

Figure 9. Due to the prioritisation of private cars use on the pedestrian sidewalks and use of inclusive roads, the spaces of socialisation in the centre are used as parking lots (Source: Solidere, 2023).

Figure 10. The prewar Debbas Square followed the same logic of the Martyrs' Square in terms of use of public transport (Source: S. Mneimneh archives, 2018).

Figure 11. A side of the postwar Debbas Square, renovated area, preserving a degree of traditional aspect, while the space is empty of users and more filled with parked cars (Source: author, 2018).

While the postwar Beirut construction had by then projected a degree of inaccessibility, the postwar disasters occurred at intermittent intervals. In fact, a series of political assassinations through explosions happened between 2005 and 2006, starting with the assassination of prime minster Rafiq El-Hariri on February 14, 2005 at the heart of Beirut, leading to the "Cedar Revolution" (Nader, 2022) which protests took place in the Martyrs' Square. At this period, the other public spaces, meant for entertainment, were even less frequented. Moreover, by the end of 2019, a series of disasters struck Beirut in one year; in fact, an unprecedented disaster – the national economic crisis that remains until present – hit the country (Simak, 2021). Based on observations, these disasters affected the main public spaces in Beirut, which were repurposed to become spaces of confrontations between the population opposed to the political regime and its supporters, all while striving to prevent a new war (Figure 12).

Figure 12. The Martyrs' Square became filled with people; however, the purpose was to protest, despite the occasional festive image such as in the New Year's Eve (Source: I. Ismail, 2020).

In 2020, the situation worsened significantly, and this time around, non-inclusiveness was pervasive on a worldwide scale as a result of the initial global quarantine implemented in March 2020 in response to the Coronavirus pandemic (COVID-19).

Additionally, on August 4, 2020, Beirut experienced the third largest blast in modern history (Helou, El Hussein, Aciksari, Salio, Della Corte, Von Schreeb, & Ragazzoni, 2021). According to Humans Right Watch (2021), 7000 people were wounded and at least 150 had to live with permanent disability. Moreover, according to Chabbouh and Fahd (2022), who studied the case of PTSD 6 months after the blast, among the 322 participants in their study, 75.8% had PTSD out of which 48.8% was severe.

With the sudden resulting urban alterations in the capital of Lebanon that occurred in few seconds during this day, added to the juxtaposed disasters' traumas over decades since 1990, Biartis commonly narrate that the image of Beirut became unrecognisable and that the functions of spaces and accessibility to them became increasingly complicated, due to destruction, economic inability, increased cases of permanent injuries, and psychological factors such as trauma related to a place and its change of identity, hindering the inclusive interaction in the city.

4.1. Significant spaces and concepts of inclusiveness in the eyes of the experts and the common narrations

4.1.1. The public squares and public transportation, economically and socially easy to access

Moubarak (personal communication, December 5, 2017) mentioned that the public aspect of the 60s in Beirut, revealing the image social lifestyle until now, actually dates back to the emergence of the public spaces serving as a venue for parades and festivals in the 19th century, when the intra-muros Beirut was growing gradually in area and in productivity. He added that these spaces had already start to been erected since the 17th century, defining public interaction. Fawaz (personal communication, January 6, 2018) refers as well to this aspect of socialisation in Beirut since the 60s and until 2024. He explained that the streets of Beirut in the beginning of the 20th century functioned as a free-of-charge paved social area for individuals to interact with each other and with the city and its façades of stores and cafes. He added as well that, at that time, public transportation developed with the tramway that started operating in 1908. Zamzam (personal communication, July 8, 2017) stressed in the private interview that the public transportation is crucial in the city as, on a social level, it is an inclusive indoor public space because it can be used by all the population who can meet together. She expressed that Beirut lost a lot of its inclusive aspect by removing the tramway.

Moreover, based on the common narrations inherited by elders in Beirut, during the 60s and previous decades where they experienced Beirut, there was a high priority placed for pedestrians and mobility in the city.

4.1.2. Social spaces of entertainment, shopping, and artistic expression and significant monuments

Moubarak (December 5, 2017) mention that the concept of entertainment, even though introduced by the Egyptian administration on Beirut during the Ottoman period in the mid-19th century, developed significantly in 1920, when Beirut was designated as the capital city of the geographically recognised Greater Lebanon under the French rule. Moreover, a major component of socialisation in Beirut was elaborated in parallel, which is the souks.

In fact, common narrations, of all ages in Beirut, reveal a priority given to shopping. The elders especially tend to narrate in cafes and other public spaces about the souks of the prewar period with nostalgia.

4.2. The perception of UD implementation in the evolution of Beirut since 1960

While numerous spaces and events were addressed by the experts and in common narrations, it is noteworthy that UD implementation as an intentional objective in the city during its evolution process from the 1960s until the day of the interviews or observations were never mentioned. It could be argued that this topic is not addressed in the collective narrative of the Biartis or that the inhabitants got adapted to its absence, even if not convinced of this absence.

5. Material and Methods

A questionnaire with 14 close-ended questions and 5 open-ended questions was conducted face to face with 150 participants, resulting in an 8% margin of error and a 95% level of confidence, because the total estimated population

in Municipal Beirut, as reported by CityPopulation (2017), is 433,249 acknowledging the absence of an official census in Lebanon since 1932.

The questions were written based on the previously mentioned analysis that included observation, common narrations, past literature, and interviews with experts.

The participants were selected using stratified random selection in equal proportions based on the following variables (Table 1):

- Gender: an equal number of participants, with 50% males (75 individuals) and 50% females (75 individuals).
- Age: a 1st generation category of 50 individuals from 61 to 100 years old; actual participants' age ranged from 61 to 82, a 2nd generation of 50 individuals from 31 to 60 years old, and a 3rd generation of 50 individuals aged up to 30 years old; actual participants' age ranged from 18 to 30.
- Religious affiliation[1] that reflects the sectarian nature of the urban spaces of Beirut after 1975: 50% Christians (75 individuals) and 50% Muslims (75 individuals).
- Type of disability or vulnerability, categorising it with physical (visible and/or invisible) or mental, affecting oneself or a relative, with an attempt to have equal proportions, adding the option "self-diagnosed" in the questionnaire choices to clarify if the vulnerability / disability is assumed.

Prior to conducting the questionnaire, I met the participants separately and I explained to each one of them for 20 minutes the general definitions of Universal Design and the Sense of Inclusiveness. Afterwards, I provided each participant with an "Agreement to Participate in Research" to secure their safety; this document notifies the participants that the Institutional Review Board (IRB), an administrative entity securing research participants, especially the ones who wish to remain anonymous, will ensure their protection. I asked them to fill in the questions regarding variables (Table 1), the health status (Table 2), and the questions related to their views of the change in urban and social Beirut from 1960 until 2024, in the frame of the significant public spaces' alterations and accessibility due to disasters and their impact on their view of the sense of the personal and collective inclusiveness or alienation, added to their degree of knowledge about UD in general and their view of actual implementation of UD in Beirut and their suggestions of UD implementation (Table 3). No issue was found regarding the use of English in the questionnaire as all the participants speak English due to its common use in Beirut.

The questionnaire's results were statistically analysed using MAXQDA 2022, measuring the frequency and the percentage of the keywords, or series of keywords, used in each answer (higher to lower).

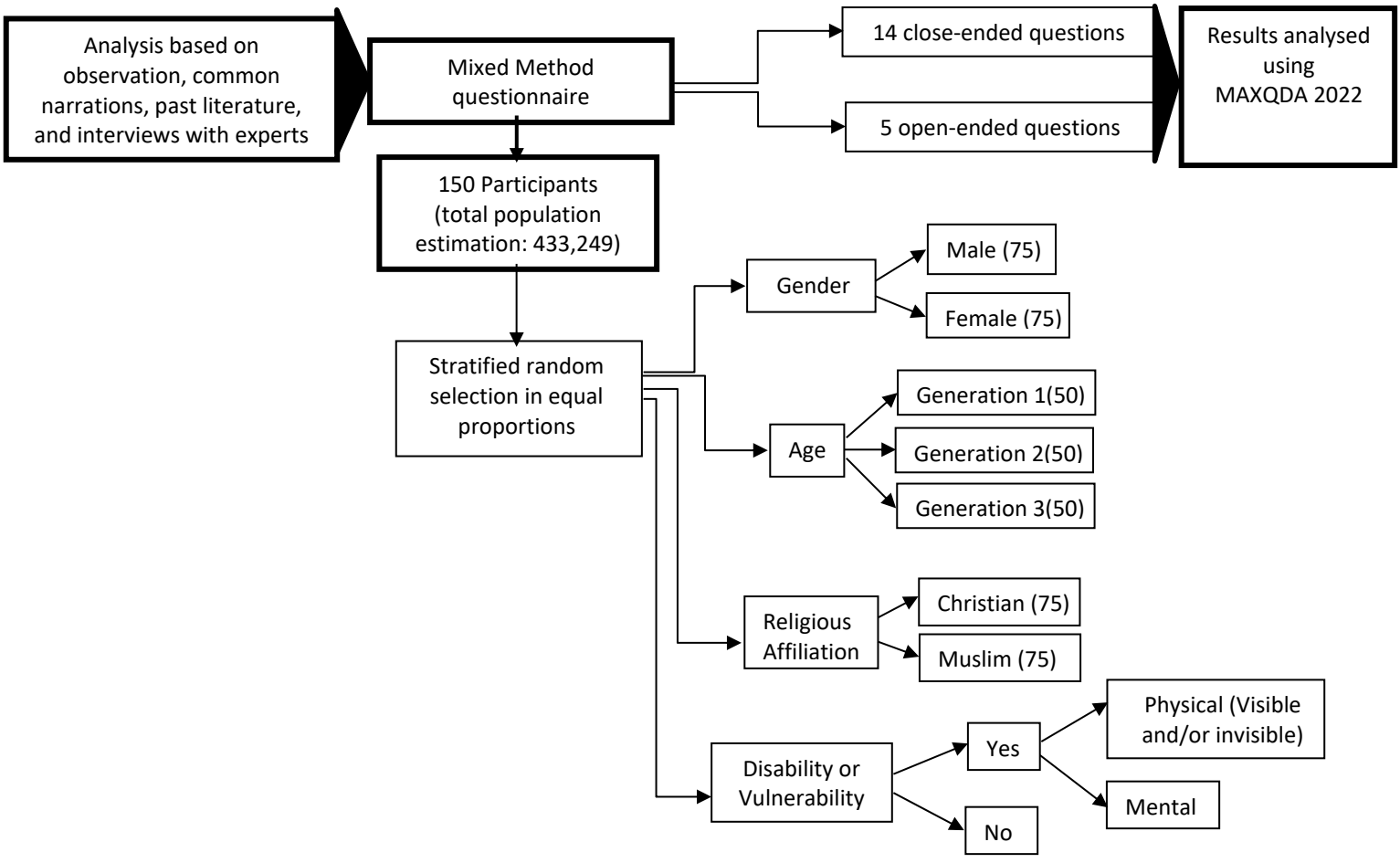


Figure 14. The Methodology: numbers in brackets are the numbers of participants (by author).

[1] Of Background, not necessarily practicing believers.

Due to time and page limitations:

- Vulnerabilities and disabilities were not in-depth examined on a case-by-case basis, examining through a qualitative study with open-ended questions the reasons for the sense of exclusiveness, the reason for choosing specific public spaces and their significance in the collective memory, the reasons why people tend to self-diagnose and isolate instead of accepting the disability, and the daily struggles in each space or in the connection between the private and public space to understand each case's UD's needs and develop accordingly specific added tailored urban solutions.
- The socio-economic background's impact wasn't examined. As a variable, it would have facilitated the comprehension on the way each social class experiences the sense of inclusiveness and perceives the degree of inclusion that the other inhabitants might experience since the city was stratified multiple types based on this factor.
- Non-inclusiveness aspects in the prewar period were not discussed, such as the sense of individualism of the 1960s.
- Inclusiveness through arts and monuments in public spaces were not discussed, knowing that in Beirut there are numerous statues reflecting coexistence such as the Martyrs' Statue and religious variety acceptance such as the statue of "The Two Crying Women"[2].
- Children and adolescents were not included in the questionnaire. However, the actual adults addressed could have been children or adolescents with a congenital or disaster-related disability or are parents or relatives to previous or current children and adolescents affected by permanent injury or disability. One-on-one interviews could have clarified this situation.

6. Results

100% of the participants answered all the questions.

Table 1. The Variables.

No	Profiles of Participants			Frequency	Valid Percent
1	**Gender**	Male		75	50
		Female		75	50
2	**Age Group**	1st Generation		50	33.3
		2nd Generation		50	33.3
		3rd Generation		50	33.3
3	**Religion**	Christian		75	50
		Muslim		75	50
4	**Disability**	Yes	Mental	57	38
			Physical (Visible and/or Invisible)	21	14
	Vulnerability	No		64	42.7
	Disability/Vulnerability	Yes		8	5.3

Table 2. Health status of the participants and/or their relatives.

No	Type of Disability/Vulnerability (type of case added by the participants)			Frequency	Valid Percent (Participants)
5	**Disability**				
5.1	Physical	Mobility Impairment		3	2
		Hearing Impairment		1	0.7
5.2	Mental	Other		22	14.7
		Anxiety Disorders		9	6
		Depression		4	2.7
		PTSD		2	1.3
					Valid Percent (Disabled)
			Medically Diagnosed	23	56
			Self-Diagnosed	18	44
5.3	Disaster-Related			29	71
5.4	Congenital			12	29
					Valid Percent (Participants)
6	**Vulnerability**				

[2] Representing a Christian woman and a Muslim woman holding hands and crying on the martyrs.

6.1	Pregnancy		8	5.3
7	**None/ Relative's Disability**			
	Healthy / No cases declared		72	48
	Relative's case declared	Mental	20	13.3
		Physical	17	11.3
				Valid Percent (Relative's Cases)
		Medically Diagnosed	27	73
		Self-Diagnosed	10	27
7.1	Disaster-Related		30	81
7.2	Congenital		7	19

Table 3. Questionnaire: The sense of inclusiveness and universal design implementation in Beirut (Multiple answers may apply).

No	Questions	Proposed Answers (Keywords)	Frequen	Valid Percent
8	In your opinion, in which decade was Beirut considered as an inclusive city?	1960s	93	62
		1920s	33	22
		19th century	24	16
9	What are in your opinion the main public spaces of Beirut? (Name all that comes to your mind)	The Souks	150	100
		Martyrs' Square	150	100
		Nejmeh Square	150	100
		Riad El-Solh Square	150	100
		The Corniche	115	76.7
10	Do you think that the public spaces are important to meet the other inhabitants and be in a better proximity?	Yes	132	88
		No	18	12
11	Do you, or one of the relatives, feel unable to access public spaces easily and safely in Beirut?	Yes	102	68
		No	48	32
12	Do you think that the postwar Beirut urban strategies for public spaces increased or reduced the sense of inclusiveness in Beirut?	Reduced	140	93.3
		Increased	10	6.7
13	Do you consider that there were spaces of inclusiveness that existed in Beirut and that disappeared due to disasters or wars?	Yes	130	86.7
		No	20	13.3
14	What missing elements do you consider is enhancing the lack of inclusiveness in Beirut?	Sidewalks	150	100
		Parks	150	100
		Public transportation	137	91.3
		Affordable places	132	88
		Pedestrian bridges	130	86.7
		Green areas	110	73.3
		Facilities for disabled mobility	80	53.3
		Road signs for disabled	78	52
		Benches	72	48
15	Do you, or one of your relatives, tend to isolate or self-isolate due to lack of accessible public spaces?	Yes	77	51.3
		No	73	48.7
16	Which aspect of difficulty do you find in the access to public spaces of Beirut?	Walking on sidewalk/Pedestrian	150	100
		Crossing roads	142	94.7
		Money	136	90.7
		Places/Accessories/Benches to sit	127	84.7
		Entering spaces with wheelchair	80	53.3
17	Are you experiencing a sense of exclusion in Beirut due to economic conditions (paid activities in the city)?	Yes	119	79.3
		No	31	20.7

18	Are you familiar with Universal Design as a concept?	Yes	85	56.7
		No	65	43.3
19	After having been introduced to the UD concept, what type of UD and where do you think should be implemented in these spaces? (example: ramps, sidewalks, accessible existing public spaces, accessible designed new spaces, design green areas, spaces for outdoor activities, possibility to cross roads and reach the different public areas safely, etc.)	The city/Beirut - Organised - Public transport	137	91.3
		Parking lots – Green spaces – Parks	136	90.6
		The Souks – Affordable places	136	90.6
		Everywhere – Safe spaces – Children	129	86
		Martyrs' Square – Pedestrian bridges	120	80
		The Corniche – Pedestrian Bridges	104	69.3
		Nejme Square – Safe spaces - Children	102	68
		Martyrs' Square – Road signs – Safety	97	64.7
		Sidewalks – Facilities - Disabled	80	53.3
		Everywhere – Road signs	78	52
		Public squares – Ramps	78	52
		Public Spaces – Benches	75	50
		Sidewalks – Ramps	72	48

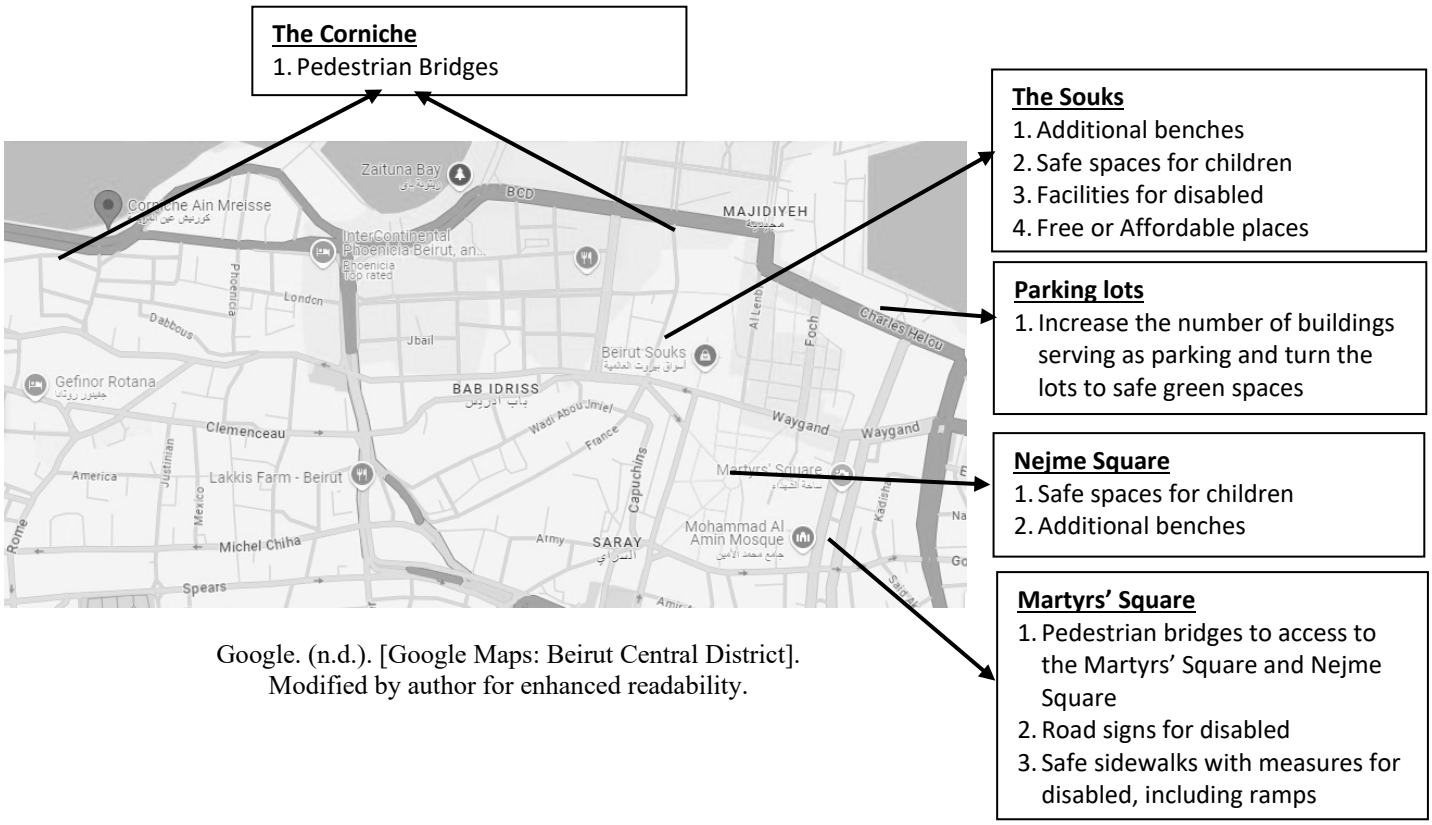
7. Discussions

Based on Table 2, it can be inferred that participants who claim to be healthy or with a disability or vulnerability may have assumed their own health status and the health of their relatives, notably the mental cases. Hence, the results indicate that it is common in Beirut to self-diagnose, especially mental disabilities and vulnerabilities after trauma, leading not to have officially registered cases of disability and vulnerability, which diminishes its real importance as a factor to be treated on an urban level. Moreover, it is remarkable that there were participants who were pregnant and mentioned their case, which highlights the fact that their case is worth to be considered in UD strategy for inclusiveness in Beirut's public spaces.

On the other hand, there is no discernible correlation between the variables and the results regarding the mentioned public spaces (Tables 1,2, and 3), which converge with the experts' information and past literature in previous sections of the study, except for the Corniche, mentioned by the participants, which is a seaside promenade along the central district of Beirut. This indicates the presence of a strong collective memory regarding the central area of Beirut and its significance and inheritance of significance to the younger generation despite the different communities' mentioned backgrounds and relative common narrations assuming large communal disparities. The participants have in fact in majority expressed the importance in Beirut of public spaces in allowing people to gather and meet despite a minority of participants with indifference towards it, which possibly stems from a condition (disability or vulnerability) or typical personality traits. Moreover, the participants expressed an attachment to a past that for them conveys a sense of inclusiveness, particularly the 1960s, and the radical change they observe in the postwar spirit of these spaces; it is clear that there is a large gap between the ideal of the participants and the reality they perceive in Beirut, in both tangible elements, related to public and accessible spaces, and the intangible ones, such as the collective memory associated to these spaces.

On the other hand, even though a significant number of the participants are unfamiliar with the term "Universal Design", they have thought about the reason for its absence in Beirut, whether for them or for the injured relative or other disabled or vulnerable inhabitant, and considered that it affects the accessibility to public spaces. The majority of the proposals for public space inclusiveness revolve around the factor of safety and its lack in its different aspects. It is possible that the participants relate the sense of inclusiveness to a sense of safety. Their suggestions revolve around standards of road safety and movement through organised public transportation and healthy and disabled pedestrian facilities, safe spaces for children, and spaces to sit in and to access with affordable economic cost or for free.

A proposal presenting the participants' suggestions is as follows:



Google. (n.d.). [Google Maps: Beirut Central District]. Modified by author for enhanced readability.

8. Conclusion

This article expounded upon the sense of inclusiveness evolving in the prewar and afterwar Beirut. Past literature, observation, and experts' interviews, added to the findings of the questionnaire, allowed to understand the degree to which the inhabitants of Beirut are attached to an urban past that was destroyed, because it conveyed for them inclusiveness that no longer exists in their view in the present, and the desire to get back the public spaces and mobility facilities Beirut had available in the prewar period, while considering to add new ones matching today's urban configuration and the inhabitants' needs to feel included in the city. This could be achieved through implementing UD norms that for the Biartis address safe mobility, safe spaces for children, and affordable and accessible public spaces.

This article also revealed how the visible urban changes impacted the invisible in the city, i.e., the relationship with the city in which the inhabitants experienced the disasters, influencing the sense of acceptance and exclusion, or self-exclusion, and of uncertainty regarding the others' acceptance to their cases due to lack of social interaction in public spaces. The implementation of UD in this case leads to a proximity conveying a general acceptance of diversity, a factor prevailing in Beirut, whether in background or in health conditions. Hence, this article also highlighted the importance to have awareness campaigns, especially in post-disaster cities, and the importance of actions on an urban level such as the implementation of tailor-made UD measures for the specific cases found in the specific traumatised city which alleviates the traumatising impacts and meet the daily needs and difficulties experienced by the disabled and vulnerable that require mobility in the city.

Due to time and page limitations, some answers were not justified. For example, it would be pertinent to understand how the Biartis experience their interactions within the existent urban setting of Beirut depending on their conditions or their relative's condition, such as having been a born or war-related disabled child, adolescent, or adult, or being a parent to a born or disaster-related disabled child, among others. It would also be crucial to understand the concept of safety because it was found in the questionnaire's findings to be related to the concept of inclusiveness in the eyes of the Biartis. It would be interesting as well to understand the reasons for the attachment to the past of Beirut, as well as the reasons for choosing the mentioned decades. All these clarifications aim to suggest specific and innovative UD implementation which is beyond the base generated by the general suggestions of the participants.

Finally, future research is required, related to the actual findings and combined to findings of a deeper qualitative research based on one-on-one interviews. The results would extend suggestions beyond public spaces and encompass the proper implementation of UD based on the needs on a neighborhood-by-neighborhood basis, taking into account its impact on the holistic urban connection. The topic needs further study as well regarding communal comparison of needs within the public spaces of the city that are both relatively near and distant from one's own neighbourhood.

Conflict of Interests

I declare that there is no conflict of interest.

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