

TRANSFORMATIVE LINES

A mapping approach to explore urban imaginaries and opportunities for socially sustainable change in Beirut, Lebanon.

Hosn Houssami

Submitted to the School of Art, Architecture and Design of London Metropolitan University in partial fulfilment of the requirements of Doctor of Philosophy.

PhD by Practice

August 2025

Supervised by Dr Bo Tang and Dr Beatrice De Carli.

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Beirut, Lebanon, is a city shaped by complex socio-political histories, shifting socio-economic conditions, and continuous physical and institutional transformation. Within this context, persistent disconnections often exist between formal urban development initiatives and the lived realities and aspirations of local communities, particularly those who may be considered marginalised residents. This thesis develops and tests a place-based mapping methodology – *Transformative Lines* – to explore how residents' spatial narratives and urban imaginaries can inform more socially sustainable urban development strategies.

The research adopts a qualitative case study approach focused on two neighbourhoods in Beirut: Sabra and Karantina. Fieldwork was conducted in 2023, and comprised architectural surveys and participatory mapping workshops, including sessions with children aged 6–12, which contributed situated perspectives often absent from urban research and planning processes. These methods generated two complementary datasets: 1) the Architectural Data Collection (ADC), documenting spatial, topographical, and infrastructural conditions; 2) the Collaborative Data Collection (CDC), capturing everyday experiences, narratives, and spatial imaginaries articulated through participatory mapping. Together, these methods constitute a dual data collection approach for the methodology that integrates architectural analysis with participatory mapping.

Through cross-analysis of these datasets, the research develops a mapping framework structured around two analytical categories: Physical Lines, representing material, spatial structures; Intangible Lines, representing social relations, movement patterns, and lived narratives embedded within the urban environment. The intersections of these two categories are defined as Transformative Junctions, which function as analytical devices to identify and analyse critical points where spatial conditions and lived experiences converge. These junctions provide a structured means of interpreting relationships between material and social dynamics,

supporting the identification of potential sites and themes for socially responsive urban development.

The outcome of the research is the *Transformative Lines Toolkit*, a methodological guide that integrates architectural analysis and participatory mapping to identify and interpret the Physical and Intangible Lines shaping a place. The toolkit is presented as a prototype developed within the specific socio-political context of Beirut, and the thesis critically reflects on its limitations, including questions of transferability, contextual sensitivity, and the ethical complexities of conducting participatory research with children in contexts characterised by political instability and social vulnerability.

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GLOSSARY

TRANSFORMATIVE LINES APPROACH

A participatory research approach utilising Lines as a methodology to develop urban development briefs.

A.D.C

Architectural Data Collection.

C.D.C

Collaborative Data Collection.

LINES

Identifiable features of an urban environment.

PHYSICAL LINES

Topographical or structural features that define an urban environment.

INTANGIBLE LINES

Sociocultural and personal features that influence the development of an urban environment.

TRANSFORMATIVE JUNCTIONS

The intersect between physical and intangible lines.

PARTICIPATORY PRACTICES

Approaches that engage individuals or groups - particularly those impacted by the subject of inquiry or intervention - in the process.

RESEARCHER POSITIONALITY

The researcher's social, cultural, and political background, including their identities, perspectives, and experiences, and the ways in which these factors influence their research process and interpretations.

NON-TRADITIONAL DEMOGRAPHICS

A subgroup within a specific research setting that is frequently underrepresented or excluded in standardised participatory processes.

VOLATILE LOCALITIES

A region distinguished by political, social, or economic fluctuations, marked by instability and dynamic conditions.

SPECIALIST OBSERVATION

Observations conducted by individuals with specialised expertise or perspective, with the purpose of collecting data relevant to their specific field of study.

SHARED URBAN IMAGINARIES

refer to shared perceptions, representations, and aspirations that people have of their urban environments.

SOCIAL SUSTAINABILITY

Sustainability pertains to the development and preservation of healthy, equitable, and thriving communities for all individuals.

SABRA

A urban settlement in southern Beirut, Lebanon, characterised by dense population and the Sabra Market.

KARANTINA

A urban settlement in northern periphery of Beirut, Lebanon, characterised by large industrial structures and the Port of Beirut.

SHATILA

The Shatila refugee camp is a settlement originally set up for Palestinian refugees in 1949 and is located in the southern Beirut neighbourhood of Sabra.

PREFACE

My interest in socially sustainable development, was advanced through my Master of Architecture (RIBA Part II) project, titled *Feast on Samba*, based in Freetown, Sierra Leone, and developed during the 2019-2020 academic year at the School of Architecture and Design, London Metropolitan University. Developed through place-based research and insights gained from discussions with the local residents in Christchurch, Freetown, the project reimagined the Samba Gutter route through the neighbourhood as a socially flourishing, formalised space of food commerce led by the local female population. The proposal sought to establish a shared platform for positively engaging gender difference and promoting female autonomy.

Following my Master's studies, I was employed as a research assistant for the *Lines through the City* research project. The project was established by the Architecture of Rapid Change and Scarce Resources (ARCSR) in collaboration with ASF-UK. The research employed interpretive mapping as an exploratory method to analyse and respond to the unique socio-topographical challenges present in Freetown. The study focused on four primary topographical lines - Contour, Forest, River, and Coast - as devices to generate insights for mapping and anticipating both physical and social issues across civic and domestic contexts in seven rapidly developing informal settlements across the city.

The foundational themes of ARCSR's *Lines through the City* research project led to the development of this doctoral research proposal, supported by the Vice Chancellor's Postgraduate (PGR) Scholarship at London Metropolitan University. Originally based in Freetown, Sierra Leone, the project sought to expand investigative research into how architectural design can adapt to and address the challenges associated with rapid urban growth, limited resources and equitable city development.

After commencing the doctoral research project, titled *Transformative Lines*, in 2021, unforeseen circumstances necessitated a shift in the primary research location from Freetown, Sierra Leone, to Beirut, Lebanon. The distinct sociocultural contexts of these two cities initially presented

challenges, requiring substantial revisions to the existing literature framework and ethical considerations. Nevertheless, the comparable topographical characteristics of both sites facilitated this transition.

The *Transformative Lines* doctoral research project was developed through extensive place-based investigations undertaken during two fieldwork periods in Beirut, Lebanon: January to March 2023 and May to September 2023. Collaboration with site-based facilitators - CatalyticAction in Karantina and the AICP in Sabra - provided valuable opportunities to engage with local communities in these neighbourhoods. These partnerships enabled extensive interviews with community members and facilitated meaningful engagement with an underrepresented demographic - children under the age of 13 - through participatory mapping and co-design workshops.

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to my supervisors, Dr. Bo Tang at London Metropolitan University and Dr. Beatrice De Carli at the University of Sheffield, for their unwavering academic and personal support and guidance throughout this journey. I am especially grateful to Professor Maurice Mitchell, who revitalised my interest in socially oriented architectural research and design during my master's studies, and whose establishment of the Lines through the City research project served as a catalyst for the development of my own research. I also extend my appreciation to Shamooun Patwari for his honesty and humour, which helped me navigate the many challenges encountered over the years. To the ARCSR family, thank you for the growth and development I have experienced as a student, professional, and academic alongside you all.

I would also like to acknowledge the generous financial support provided through the London Metropolitan University Vice-Chancellor's Postgraduate (PGR) Scholarship, which made this doctoral research project possible. I am deeply grateful to London Metropolitan University and to the faculties within the Graduate School and the School of Art, Architecture and Design for fostering an enriching academic environment. My sincere appreciation goes to Professor Klaus Fischer, Anna Kamyk, and Maeva Khachfe for cultivating a positive and collaborative research culture. I also extend my thanks to Dr. Matthew Barac, Dr. Jane Clossick, Dean Anne Markey, and Professor Christian Frost for their ongoing encouragement and commitment to advancing research endeavours within AAD. A special thank you goes to Reishin Watabe, Neha Doshi, Ntuthuko Khanyile, and

Alessia Dalceggio for their friendship, guidance, and encouragement throughout this journey, as well as to my colleagues and peers across various schools and institutions.

This endeavour would not have been possible without the support of my valued site facilitators, CatalyticAction and the AICP. I extend my gratitude to Joana Dabaj for her infectious positivity and continued encouragement. My sincere thanks go to Riccardo Luca Conti, Sara Maassarani, and the wider CatalyticAction team for their belief in my work, with particular appreciation to Jana Al Saeed for her invaluable assistance in facilitating workshops in Karantina. I am equally grateful to Ahmad Choucair for recognising the value of participatory approaches for the students he serves, and to all the educators at AICP Hidaya School for their support. To the children and community members in Karantina and Sabra, this research belongs as much to you as it does to me. I hope to contribute meaningfully to the realisation of the aspirations expressed through this research.

I am eternally grateful to my parents, who have supported me through every decision and sacrifice; who, like many immigrant parents, gave up the feeling of home in pursuit of my stability and success. You are, and always will be, my greatest motivation. I also extend my heartfelt appreciation to my family and friends - my ducklings - whose encouragement, love, and celebration of every success have sustained me throughout this journey.

Finally, to Ahmad Hoteit: your love and unwavering support have been my greatest source of strength and determination. Thank you for being my companion through every late-night work session, my voice of reason in moments of overwhelm, and the best test audience for conference presentations anyone could ask for. I could not have done this without you.

DECLARATION OF AUTHORSHIP

I, Hosn Houssami, confirm that the work presented in this thesis, including all supplementary appendices, is my own and that appropriate credit has been given where reference has been made to the work of others.

References to research undertaken prior to commencement of this thesis project have been referenced where relevant.

Research concepts, fieldwork outputs and analyses included in this thesis have been included in the following publications and public events:

JOURNAL ARTICLES

Houssami, H; De Carli, B; and Tang, B (Due end 2025) '*Transformative Lines: A dual approach to mapping urban experiences and imaginations*', to be published in special issue: Map-Making as Implicit Urban Design: Re-tracing Histories of Critical Cartography [Journal TBD – Abstract Accepted]

PAPERS IN CONFERENCE PROCEEDINGS

Houssami, H (2022) '*Children; participants, designers, end-users.*' In: International Phygital Conference Journal, following 'International Phygital' Conference, Rksmvv Girls College, Kolkata November 2022.

CONFERENCE PRESENTATIONS

'*Catalyst Childhood Design*' at LMU Staff-Student Research Conference, London Metropolitan University, July 2022.

'*Children as Collaborators*', as part of joint keynote presentation '*Informal urban development, research co-production and sustainability*' with Dr Beatrice De Carli and Dr Bo Tang at LMU Staff-Student Research Conference, London Metropolitan University, July 2023.

'*Transformative Lines: Beirut, Lebanon*' at School of Art, Architecture and Design PhD Symposium, London Metropolitan University, March 2024.

'*Transformative Lines: Mapping a Bottom-Up Urban Imaginary for Beirut, Lebanon*' at LMU Staff-Student Research Conference, London Metropolitan University, July 2024.

'*Transformative Lines*' at LSBU PGR Conference, London Southbank University, July 2024.

'Transformative Lines: Adaptive Methodological Approaches' at AHRA 2025 PhD Symposium, De Montfort University, May 2025.

'Pedagogical approaches in place-based architectural studio projects' at UCL Spatial Praxis in Diasporic Worlds Symposium, University College London, June 2025.

'Transformative Lines: A Mapping Framework to aid in the discovery of Children's Urban Imaginaries in Beirut, Lebanon' at Emerging Urban Inequalities PhD and ECR Conference, University of Sheffield, June 2025.

'Transformative Lines: Unexpected Encounters in Place-Based Research' at LMU Staff-Student Research Conference, London Metropolitan University, July 2025.

SEMINARS & EXHIBITIONS

'Lines Through the City Seminar' at AAD Sessions, [Online] London Metropolitan University, January 2022.

'Research Abroad' at GDIRC PhD Experiences Seminar, [Online] London Metropolitan University, March 2023.

'Spatial Practice in a Post-disaster City: Learning from Beirut' at AAD Sessions, [Online] London Metropolitan University, February 2024.

'Transformative Lines Exhibition and Seminar' at AAD Sessions, Goulston Street, London Metropolitan University, January 2025.

ADDITIONAL VISUAL MATERIAL: PROJECT PORTFOLIO

This thesis is presented along with a Project Portfolio comprising of the following:

Appendix A: **Portfolio Drawings** – 22 large format (A1) drawings.

Appendix B: **Transformative Lines Toolkit** – A formatted guide as a practical outcome of the research approach developed for this project.

Appendix C: **The Workshop Diary** – An extended documentation of the workshops undertaken during the research fieldtrips: from

development, to facilitation and analysis.

Appendix D: **The Transformative Lines Exhibition & Seminar Report** – A review of the exhibition curated as practical outcome of this project.

STATEMENT OF LENGTH

This thesis, including captions but excluding, project portfolio, figure/table content and bibliography, contains approximately 40,000 words and is therefore within the word limit for a PhD by Practice, set within London Metropolitan University's Research Degree Regulations.

DECLARATION OF ETHICS

I confirm that ethical approval for this research study was granted by London Metropolitan University during prior to second year of the study (2022). Signed consent forms (verbal consent where applicable) were obtained from all participants referenced in the thesis, during fieldwork conducted between January and September 2023. As many of the participants were minors, all contributing individuals have been anonymised.

INTRODUCTION

Framing the Question to support the development
of Transformative Mapping.

1.1 BACKGROUND

Maps are a visual medium expressing the topographical, architectural, and often social constructs of a landscape. Used throughout history for purposes such as record-keeping, navigation, and storytelling, they play a fundamental role in the practice of place-based architectural research and design: providing a means to represent space in a form that transcends the specifics of a particular verbal language. Although some maps may lack accuracy or be abstract, they typically harbour recognisable features of a landscape by which a reader may orient themselves.

In the context of spatial representation, maps are more than physical products. Rather, maps and map-making may also be considered exploratory tools for this objective: 'Maps generally function as a tool for visually organising thoughts, experiences, and ideas [...] maps are cultural artifacts that document how people engage with one another and their environments' (Pacheco & Velez, 2009:274). While map-making in architectural practice predominantly entails recording physical elements, mapping this 'engagement' of people with their landscapes offers deeper insights into the impact of the built environment on people and vice versa – insights into potential urban imaginaries.

Urban imaginaries are commonly understood as the collective representation, narratives, engagement, and aspirations of spaces through which communities interpret and envision their urban environments. Scholars such as Arjun Appadurai (2004) and Saskia Sassen (2006) have examined how collective imaginaries and public interventions influence perceptions of belonging and social identity. Urban theorists like Abdou Maliq Simone (2007) emphasise the significance of collective urban imaginaries in shaping everyday urban practices and aspirations. In cities characterised by layered histories and shifting political identities, urban

imaginaries often serve as a mechanism through which residents negotiate issues of belonging and spatial ownership. This is particularly relevant in Beirut, where urban identity is shaped by intertwined histories of conflict, displacement, and reconstruction.

Within this thesis, urban imaginaries are regarded not merely as abstract visions of the city but as contextually grounded narratives arising from residents' lived experiences and their aspirations for future urban development. As such, methodological approaches capable of capturing both spatial structures and lived experiences are required to identify these urban imaginaries through mapping. These approaches enable aspirations to be prioritised through predefined criteria, rather than through the opinions of an architectural facilitator. The approach adopted to fulfil this aim for this research was participatory mapping.

Due to the visual quality of maps and map-making – which emphasises form over language – map-making is an accessible tool for supporting participatory practice approaches in research. This method allows residents to take an active role in the documentation of their environments rather than relying solely on the researcher. Early use of the term 'participatory' applied to maps emerged from the 1930s to the 1970s in the context of movements to rethink cities and housing (Guldi, 2017:80); it became an increasingly relevant topic in the Global South from the 1970s due to a high demand to replace colonial structures with new institutions and organisational forms (Guldi, 2017:86).

1.2 RESEARCH PROBLEM AND QUESTIONS

Urban development processes often depend on technical data, expert knowledge, and established institutional decision-making frameworks. While participatory approaches have been implemented to expand stakeholder engagement, many of these efforts remain limited in scope, often emphasising consultation over genuine co-production of spatial knowledge. This challenge is especially pronounced when it comes to including groups that are frequently underrepresented in planning processes, such as children.

Existing literature on participatory planning emphasises collaborative design and community consultation during later stages of urban development. However, limited attention has been paid to participatory mapping as a generative research tool that reveals collective urban imaginaries before formal design begins. Participatory mapping remains

underutilised as a research tool capable of uncovering how residents perceive, experience, and envision their urban environments. Although maps have traditionally documented the physical features of cities, critical cartography - the use of critical theory as a mapmaker or scholar studying maps (Stanford University Library, 2026) - demonstrates that they can also convey social narratives, cultural significance, and collective spatial imaginaries.

This thesis investigates how participatory mapping can reveal residents' urban imaginaries and contribute to socially sustainable development in contexts characterised by social fragmentation and rapid spatial change, such as Beirut, Lebanon. Rather than treating mapping solely as a technical tool for documenting physical features, the study approaches map-making as collaborative process through which spatial experiences, social narratives, and collective aspirations can be documented and analysed together. The design of the research therefore centred on the role of mapping using a dual data collection strategy, a foundational element of the *Transformative Lines* approach. This strategy structured decisions about what to map, who would map it, and how mapped elements could be categorised for cross-analysis.

Children were selected as the primary participatory contributors to this research. They were chosen as participants due to a personal interest in understanding children's perspectives on architectural and urban development, and a recognition that, fundamentally, children remain one of the least engaged demographics in urban research and planning processes, despite being significant users of urban environments and key stakeholders in the long-term sustainability of cities. To achieve genuinely socially sustainable cities – urban environments that accommodate all members of society rather than solely the vocal majority – it is essential to incorporate the insights of non-traditional stakeholders into the formulation of new development frameworks.

Despite the growing body of literature on participatory planning and child-inclusive design, three key gaps remain. First, participatory mapping is rarely used as a generative research tool to uncover collective urban imaginaries prior to design intervention. Second, children's participation in urban research is often limited to play-based or consultative activities rather than the co-production of spatial knowledge. Third, in contexts such as Beirut – characterised by contested identities and fragmented governance – there is limited methodological work exploring how participatory practices can engage underrepresented groups in shaping urban knowledge.

Consequently, the central research question guiding this thesis is:

How can participatory mapping with children reveal urban imaginaries that support socially sustainable development in rapidly changing cities such as Beirut?

To address this issue, additional questions required consideration:

- 1) How can participatory mapping capture both the physical and intangible dimensions of urban space?
- 2) What ethical and methodological issues arise when conducting participatory mapping with children in politically complex contexts such as Beirut?
- 3) How can children contribute to the co-production of urban knowledge through participatory mapping practices?
- 4) How can a participatory mapping framework uncover shared urban imaginaries and inform development strategies?

This thesis addresses these intersecting gaps by developing and testing a mapping-based, child-inclusive methodological framework situated within the socio-political realities of Beirut. Rather than treating mapping solely as a technical method of spatial documentation, the thesis investigates how mapping can function as a collaborative process through which physical environments, social narratives, and collective aspirations are documented and analysed together to help facilitate socially sustainable development. In doing so, it contributes to research on participatory mapping methodologies, child-inclusive urban research, and urban imaginaries in contexts of displacement and contested urban identity.

Mapping Frameworks

This thesis begins by exploring map-making as a practice, alongside considerations of various mapping methodologies, including mapping techniques developed through former personal research experiences. This project develops a mapping framework, in the context of a prototype toolkit, through which both architectural researchers and local participants could actively collaborate in uncovering shared urban imaginaries that can contribute to socially sustainable development.

As previously discussed, a key consideration in the use of mapping as

a framework involved developing a title by which selected mappable features can be categorised within this framework. This research adopts terminology based on 'Lines' as a way to categorise the chosen mappable features. This *Transformative Lines* approach expands the theories by using 'Lines' not only to describe the linear features of urban environments but also as a means of representing both the physical and intangible characteristics of cities.

Participatory Practices in Beirut, Lebanon

Beirut represents a particularly significant context for this study due to its intricate layering of history, demographic change, and contested urban governance. The city's complex social fabric – shaped by migration, displacement, and informal development – creates conditions in which conventional planning approaches frequently overlook local knowledge and the aspirations of marginalised communities. Examining participatory mapping within this setting enables the project to explore how urban imaginaries develop amid socio-spatial change. Additionally, it offers insights that may be applicable to other rapidly evolving or contested urban environments.

In Beirut formal governmental development policies often fail to acknowledge residents' aspirations. Consequently, local collectives and community organisations often assume responsibility for pursuing participatory initiatives independently of formal planning structures. Despite several participatory initiatives emerging in the city, due to the political nature of development in the country, it is relatively common for neighbourhoods not to be involved in this process. Typically, these initiatives are internationally funded and often require a significant catalyst to prompt interest, such as the 2020 Beirut Port explosion which resulted in significant interest in the development stage in Karantina and the surrounding neighbourhoods.

Moreover, it is uncommon for these participatory practices to engage non-traditional participants, such as those who are differently abled, or those in underrepresented age groups, such as young children. Exploring the ways in which participatory processes are facilitated with these underrepresented demographics in turbulent localities such as Beirut, Lebanon (especially with the additional concerns of safeguarding and ethical practice) represents a critical methodological consideration.

Children – participants, designers, end-users

'Children are gradually being acknowledged as children: and childhood as a full-fledged form of life, an integral part of society, physically indispensable and spiritually inspiring' (Eyck, 2008:22).

Participatory development, characterised as a bottom-up approach, is frequently acknowledged as fostering more equitable cities; however, it cannot genuinely be considered an equitable process unless entire demographics are inclusively engaged.

The discourse surrounding children's participation is not a recent development, although it has gained prominence over time. As outlined in Article 12 of the Convention on the Rights of the Child – The Right to Be Heard, 'the views expressed by children [...] should be considered in decision-making [...] these processes are usually called participation' (United Nations, 2009). Involving children in participatory mapping, therefore, is both a matter of rights and a key component of social sustainability. By recognising the perspectives of younger residents, urban development can more accurately address the needs and aspirations of diverse demographic groups, thereby fostering inclusive and resilient communities that endure beyond immediate interventions.

What, then, is the role of researchers in facilitating children's participation within this context? Researchers should create opportunities for children to engage in more formal spheres of participation, establishing spaces where they can contribute ideas and opinions in a manner appropriate to their level of understanding. The communication should be articulated in straightforward language that the child can easily comprehend and react to, and the outputs must align with the child's developmental skills. In response, it is the responsibility of researchers to interpret this input, consistently referencing the children's perspectives to ensure that the conclusions truly reflect their voices and involvement in the participatory process.

Urban Imaginaries and Socially Sustainability

In discussions of sustainable urban development, attention frequently focuses on environmental or infrastructural dimensions such as energy efficiency, resource management, or material sustainability. However, the social dimensions of sustainability are equally critical. Social sustainability relates to the long-term endurance of urban environments: 'there is a relatively limited literature that focuses specifically on social sustainability, while a broader literature exists on the overlapping concepts of social

capital, social cohesion, social inclusion, and social exclusion' (Dempsey et al., 2011).

While these related social-led concepts are indeed relevant, social sustainability specifically pertains to the temporal life of urban development, based on its impact on a society either physically or intangibly. It encompasses development choices that foster positive social outcomes, thereby ensuring that such development is sustainable over time. The discovery of what may inform socially sustainable projects can be achieved by analysing existing socio-cultural dynamics in a community. This can help to define patterns in the interactions between people and the built environment.

However, there is an aspect that cannot be attained through observation and architectural surveying alone: local aspirations. Understanding urban imaginaries therefore becomes an important component of socially sustainable development. While architectural surveys and spatial analysis can reveal patterns in the physical organisation of cities, they cannot fully capture the aspirations, concerns, and narratives which provide the foundation for how residents interpret their environments. It is through a data collection framework predicated on participatory and collaborative practices that these aspirations may be identified. By enabling residents to document and represent their experiences of urban space, such approaches may reveal shared aspirations and alternative visions of the city that might otherwise remain absent from development processes.

Within this thesis, participatory mapping is explored as a methodological framework through which these imaginaries can be identified and analysed. It is utilised as a method to translate intangible social narratives into spatial representations, providing a structured yet adaptable approach to analysing how communities perceive, experience, and engage with their urban environments. By combining architectural mapping with collaborative data collection involving children, the research seeks to uncover the intersections between physical urban structures and the social narratives that shape how neighbourhoods are experienced and imagined.

1.3 RESEARCH AIM AND OBJECTIVES

The aim of this project is to examine various mapping methodologies to facilitate the development of a novel 'Lines-based' mapping framework and data collection approach. This research project proposes to contribute

methodologically to participatory mapping practices, empirically to the understanding of children's spatial experiences in Beirut, and conceptually to discussions of how urban imaginaries can inform socially sustainable development in cities experiencing rapid demographic and spatial change. This approach has been created to document key urban concerns, both structural and social, as recognised by residents of Beirut's continuously evolving neighbourhoods.

The research objectives of this thesis aim to investigate how an architectural and collaborative mapping framework can be developed and adapted:

- a) To identify and represent through mapping the local topographic and spatial contexts; Physical Lines [features].
- b) To identify and represent through mapping different ethnographic and temporal narratives; Intangible Lines [features].
- c) To identify and represent alternative potential urban imaginaries that may not be apparent in the existing collective narrative, and also the shared aspirations of children as the primary participant group at both the local and city scale.
- d) To develop a prototype mapping toolkit, utilising the concept of 'Lines' to categorise and analyse both the physical and intangible components of settlements, as part of a larger theoretical framework for city development.

These objectives are directly aligned with the research questions, structuring the investigation from the identification and mapping of spatial and social data to the analysis of urban imaginaries and the development of a mapping-based methodological framework.

1.4 TRANSFORMATIVE LINES: AS AN APPROACH AND AS A RESULT

While there is extensive literature relating to participatory practices, both in urban settlement contexts and with children as key contributors, most approaches focus on hands-on design stages. Mapping methodologies, commonly used during fieldwork, are often underemphasised in design phases. These existing approaches have demonstrated significant success; notable resources like *The Playful Cities Toolkit* (Real Play Coalition, 2021) – a leading global child-focused participatory resource for city planning

– use mapping mainly in the initial research phases. The *Transformative Lines* research project does not challenge the efficacy of such methods but instead explores the feasibility of utilising mapping as a foundational tool throughout all stages: from research to design. The goal is not to replace other participatory methods but to present an alternative – particularly in contexts lacking accessible or interpretable maps which do not include local insight.

Reflections on the ethics of place-based research involving children, decolonial research practices, and a situated understanding of researcher positionality were fundamental to this project. These considerations led to the design of a two-tier data collection approach: one focusing on data obtained through the architectural perspective of the researcher, and another based on data gathered through collaborative engagement with local participants: Architectural Data Collection (ADC) and Collaborative Data Collection (CDC). ADC involves extensive multi-scale mapping – of dwellings, neighbourhoods, and broader urban contexts – while CDC focuses on mapping social and ethnographic narratives. The outputs from these two data collection techniques were evaluated through distinct analytical Lines-based categories: Physical Lines (ADC) and Intangible Lines (CDC).

Outputs from the ADC are employed as the baseline data used to cross-reference with empirical research, which included outputs from a collaborative workshop (CDC). This is a process which lead to the discovery of intersections between physical space, social patterns, and collective aspirations – termed Transformative Junctions. These steps became the *Transformative Lines* approach, a mapping methodology which utilises the findings from architectural and participatory mapping to identify development briefs rooted in physical and social data and analysed through a Lines-based framework.

This approach is formalised through a prototype mapping-centred research toolkit: the *Transformative Lines Toolkit*. This toolkit integrates cartography, architecture, ethnography, and local narratives to inform, conceptualise, and represent community-led action plans at both the local and urban scales. It supports participatory urban research and planning across scales. It is intended for use by local urban researchers.

While the *Transformative Lines Toolkit* is presented as a structured methodological framework, its development is rooted in the specific socio-spatial context of Sabra and Karantina in Beirut. The toolkit therefore reflects the cultural, political, and ethical conditions encountered during

fieldwork, including local norms surrounding children's participation and community engagement.

The framework, therefore, should not be understood as a universally transferable model, but rather as a context-sensitive methodological approach. Its application in other settings would require careful adaptation to local social structures, governance systems, and ethical considerations related to participatory research with children. Consequently, the *Transformative Lines Toolkit* is best viewed as a flexible methodological contribution, intended to inform similar research contexts, rather than as a prescriptive planning instrument.

1.5 SUMMARY

This thesis investigates how participatory mapping practices can reveal urban imaginaries and contribute to socially sustainable development in rapidly transforming urban contexts. By combining architectural mapping with participatory data collection involving children, the research develops the *Transformative Lines* approach as a methodological framework for identifying intersections between physical urban structures and residents' lived experiences. The following chapters outline the theoretical foundations, empirical research, and analytical framework that led to the development of the *Transformative Lines Toolkit*.

This PhD-by-Practice thesis consists of two interrelated components: a written dissertation and a design-based project portfolio. The written component begins by establishing the literary and site-specific contexts that have informed the thesis questions and outcomes.

Chapter 2 reviews key literature on participatory mapping, urban imaginaries, and child-inclusive research practices, and explores decolonial place-based research practices, establishing the theoretical framework that informs the *Transformative Lines* methodology. This is then used to examine the ethical considerations of place-based research and participatory practices with children, prompting a reflexive examination of my positionality as a researcher with ethnic ties to the study sites.

Chapter 3 situates the research within its spatial context by examining the historical, architectural, and socio-cultural dynamics of Sabra and Karantina in Beirut, Lebanon. It describes the historical, architectural, and sociocultural dynamics of these neighbourhoods. Additionally, site-based precedent studies with a focus on participatory practices and public space

interventions are assessed, and expanded upon in Appendix E.

Chapter 4 presents the methodological framework for the study, introducing the dual data collection strategy and discussing the ethical and practical considerations involved in conducting participatory research with children in politically complex environments.

Chapters 5 and 6 present the empirical findings generated through the ADC and CDC strategies. These chapters focus on the mapping and analysis of physical spatial structures, conceptualised as Physical Lines, and the socio-cultural narratives and lived experiences mapped through the concept of Intangible Lines.

Chapter 7 integrates these findings through cross-analysis of various Physical and Intangible Lines. Discoveries formed from the intersections of these lines serve as a foundation for discussions on residents' shared urban aspirations, site-unique development challenges, and spatial gaps, which are conceptualised as Transformative Junctions.

Chapter 8 synthesises the methodological framework and empirical findings of the research to develop the foundations of the *Transformative Lines Toolkit*. This prototype toolkit formalises the mapping-based approach developed throughout the thesis and demonstrates how the concept of 'Lines' can be used to analyse the physical and intangible dimensions of urban environments within participatory research and planning contexts.

Chapter 9 concludes the thesis with a review of the research objectives and reflections on the crafted Lines-based development framework.

As described, this thesis also includes a project portfolio, which includes portfolio drawings, a workshop diary, and the *Transformative Lines Toolkit*. Together, these portfolio materials document the visual, participatory, and design-based processes through which the *Transformative Lines* methodology was developed and applied. The portfolio drawings visually present the mapping and analysis conducted across both sites and correspond to specific thesis subchapters. The workshop diary provides additional context regarding the development and outputs of participatory workshops involving 120 children from Sabra and Karantina, Beirut, during the fieldwork trips. As a PhD-by-Practice, the *Transformative Lines Toolkit* represents a key research outcome, translating the methodological insights of the thesis into a structured framework for participatory urban analysis and development planning.

3.2 BEIRUT: THE PHOENIX CITY

For this subchapter please refer to **Appendix A - Portfolio Drawings: '3.2 Beirut: The Phoenix City'**.

Fig. 1.1.

Example of subheading indicating corresponding subchapter & appendix.

1.6 THESIS COMPONENTS TABLE

Please find **Thesis Components Table**, detailing chapter sections and their corresponding **Project Portfolio** appendices, which should be read in conjunction with each other:

TRANSFORMATIVE LINES - THESIS COMPONENTS TABLE			
Thesis Writing		Thesis Appendices	
Chapter Section No.	Chapter Section Title	Relevant Portfolio Drawing Page/s (Appendix A)	Other Relevant Appendices
Chapter 3 – The Phoenix City			
3.2	Beirut: The Phoenix City	3.2 – Beirut: The Phoenix City	
3.3	Sabra, Beirut	3.3 – Sabra, Beirut	
3.4	Karantina, Beirut	3.4 – Karantina, Beirut	
3.5	Situated Precedent Studies		Appendix C: Situated Precedent Studies

Fig. 1.2.

'Transformative Lines' thesis components table.

Chapter 4 – Adaptive Methodological Approaches

4.3.1	A.D.C. Technique A: Drawing	All Applicable	
4.3.3	The A.D.C. Technique C: Fieldwork Diary		Appendix C: The Workshop Diary PP. 72 - 77
4.4	Collaborative Data Collection		Appendix C: The Workshop Diary
4.4.1	C.D.C. Technique A: Interviews		Appendix C: The Workshop Diary PP. 54 - 55, 102 - 111
4.4.2	C.D.C. Technique B: Workshops		Appendix C: The Workshop Diary PP. 10 – 16, 32 – 45
4.4.3	C.D.C. Technique C: Community Initiatives		Appendix C: The Workshop Diary PP. 78 - 81
4.5.1	Matters of Child Participation		Appendix C: The Workshop Diary PP. 46 - 53

Chapter 5 – Physical Lines

5.2.1	Contours	5.2.1 – Contours	
5.2.2	Coast	5.2.2/3 – Coast & River	
5.2.3	River	5.2.2/3 – Coast & River	

Thesis Writing		Thesis Appendices	
Chapter Section No.	Chapter Section Title	Relevant Portfolio Drawing Page/s (Appendix A)	Other Relevant Appendices
5.2.4	Green (Forest)	5.2.4 – Green (Forest)	
5.2.5	Natural Line Interactions	5.4 – Physical Lines: Interaction Consolidation	
5.3.1	Structures	5.3.1 – Structures	
5.3.2	Routes	5.3.2/3 – Routes & Boundaries	
5.3.3	Boundaries	5.3.2/3 – Routes & Boundaries	
5.3.4	Occupation	5.3.4 – Occupation	
5.3.5	Human-Made Line Interactions	5.4 – Physical Lines: Interaction Consolidation	
5.4	Physical Lines: Interaction Consolidation	5.4 – Physical Lines: Interaction Consolidation	
Chapter 6 – Intangible Lines			
6.1	Introduction		Appendix C: The Workshop Diary PP. 58 – 71, 84 - 101
6.2.1	Public/Private	6.2.1 – Public/Private	
6.2.2	Age	6.2.2/3 – Age & Gender	

Fig. 1.2.
'Transformative Lines'
thesis components table.

6.2.3	Gender	6.2.2/3 – Age & Gender	
6.2.4	Explicit Intangible Line Interactions	6.4 – Intangible Lines: Interaction Consolidation	
6.3.1	Diversities	6.3.1/3 – Diversities & Safety	
6.3.2	Experiential Radius	6.3.2 – Experiential Radius	
6.3.3	Safety	6.3.1/3 – Diversities & Safety	
6.3.4	Implicit Intangible Line Interactions	6.4 – Intangible Lines: Interaction Consolidation	
6.4	Intangible Lines: Interaction Consolidation	6.4 – Intangible Lines: Interaction Consolidation	
Chapter 7 – Transformative Junctions			
7.2.1	Structures & Public/Private	7.2.1 – Structures & Public/Private	
7.2.2	Routes & Safety	7.2.2 – Routes & Safety	
7.2.3	Green (Forest) & Boundaries	7.2.3 – Green (Forest) & Boundaries	
7.2.4	River & Experiential Radius	7.2.4 – River & Experiential Radius	
7.3.1	Sabra: A Place for Children	7.3.1 – Sabra: A Place for Children	Appendix C: The Workshop Diary PP. 86 – 101

Thesis Writing		Thesis Appendices	
Chapter Section No.	Chapter Section Title	Relevant Portfolio Drawing Page/s (Appendix A)	Other Relevant Appendices
7.3.2	Karantina: Widening the Radius	7.3.2 – Karantina: Widening the Radius	Appendix C: The Workshop Diary PP. 102 – 111
Chapter 8 – The Toolkit			
8.2	The Transformative Lines Approach		Appendix B: The Transformative Lines Toolkit
8.3	Transformative Lines: Exhibit & Seminar		Appendix D: The Transformative Exhibit & Seminar Report

Fig. 1.2.
'Transformative Lines'
thesis components table.

MAP / MAPPING / MAP- MAKER

An Exploration of the Historical Practice of Map-Making
and its Participatory Applications in Urban Development.

2.1 INTRODUCTION

The result of this study, the *Transformative Lines* approach, is grounded in the utilisation of map-making as a methodology for data collection, analysis, and the enhancement of architectural proposals. The *Transformative Lines* approach expands the scope of participation in data production by directly involving local populations in the mapping process. The engagement of local communities, particularly in this thesis, is considered a primary advantage of site-based research and, importantly, serves as a marker of the legitimacy of data-driven constructed shared urban imaginaries.

Map-making serves as an investigative tool for uncovering and analysing the urban imaginaries shared by the primary stakeholders in this research: children. In contemporary practice, there has been a significant shift from conventional cartographic mapping methods, which are based on a geographic approach to map-making, to increasingly ethnographic and participatory approaches that capture social and experiential dimensions of space. In this context, maps have become more analytical records of space, reflecting on the physical characteristics of a place but also the societal patterns present.

When exploring participatory practices in architectural research, map-making can also be employed as a tool for collaboration. Involving local community members in the documentation of their neighbourhoods or cities reshapes the traditional hierarchy in research production, platforming participants as co-researchers rather than just subjects of the study. This reconfiguration of roles is particularly significant in research conducted in foreign localities, where observing decolonial research principles is an embedded ethical commitment. This is particularly significant for this thesis, which is situated in Beirut, Lebanon. While I will address my positionality as a British researcher of Lebanese heritage in the research

methodology, the pursuit of decolonial research practices is nonetheless necessary for this study, considering my lack of lived experience in the country.

This chapter examines the intersecting literature on critical mapping, participatory urbanism, child-centred design, and decolonial research methodologies. Together these fields provide the theoretical foundations for the Transformative Lines approach developed in this research. The thesis begins with an overview of the history of map-making, addressing the various critiques of cartography as a formal discipline, to the development of critical cartography as a response to these. This chapter will describe the construct of the ‘shared urban imaginary’, as it relates to the discovery of collective aspirations for urban development; it will also examine theories of co-production in relation to contemporary academic decolonial research methods. Furthermore, it will review contemporary approaches to architectural research with children as primary stakeholders. These topics serve as foundational themes for the broader thesis, and their integration is intended to emphasise the intersection at which the *Transformative Lines* approach is situated.

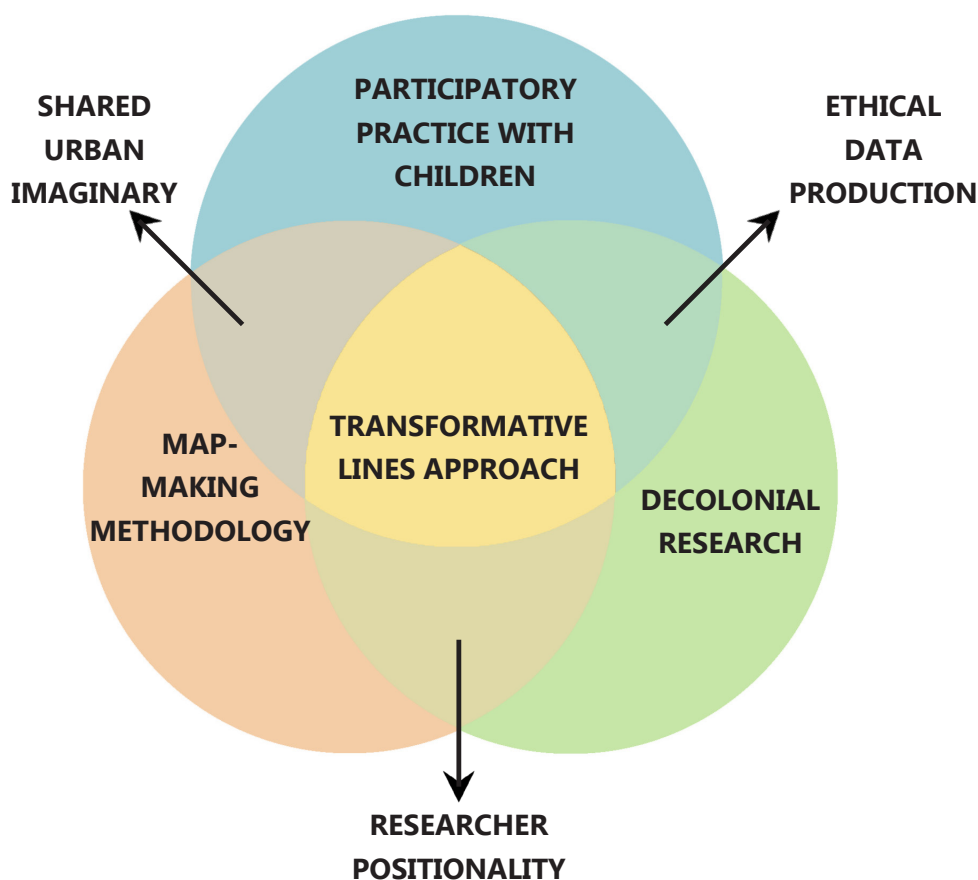


Fig. 2.1.
Intellectual context
intersect of
'Transformative Lines'
approach.
Venn diagram A.

2.2 CARTOGRAPHY TO MAP-MAKING / SCIENCE TO CRITICALITY

'Cartography apprehends space as pure quantity, abstracted from the qualities of meaning and experience... It objectifies the world as a mundane surface, no longer the hub of a sacred cosmos or a succession of tangible places.' (Biggs, 1999:377-78)

'The origin of maps is involved in as much obscurity as the invention of letters' (Daly, 1879:2). Early mapping practices often prioritised narrative and symbolic representation over geographic precision, as witnessed in an early stone engraving discovered in Navarre, Spain, depicting the migration of deer across the landscape. Historically, maps often prioritised storytelling over geographic precision, functioning as imagined evocations of space rather than accurate records. In this sense, maps represent specific moments and narratives, and this concept informed my methodology by encouraging consideration of time and temporal narratives alongside fixed representations.

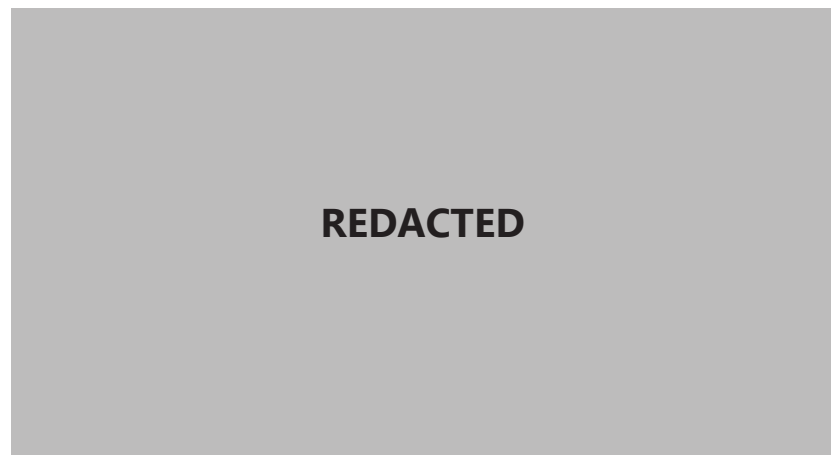


Fig. 2.2.

Photograph of *Navarre stone-carved map* (date not known). [Source: History of Information]

Although cartography as a subject of study is relatively new, it has permeated the academic and professional fields and become an epistemic linguistic surrogate for the term 'map-making'. This shift has led to a rich discourse regarding the term's historical legitimacy, with some commentators suggesting that 'conflating the history of mapmaking with that of cartography is like conflating the history of walking with that of the automobile' (Wood, 2003:5). Contemporary critiques of cartography have highlighted significant shortcomings inherent in the concept, particularly those arising from Western academic traditions. Scholars have repeatedly questioned cartography as a scientific discipline. J.B. Harley asserts that it is notably within the 'western culture [... that] cartography has been defined

as a science' (Harley, 2001:35). This characterisation of cartography as a scientific study for recording places has been addressed by map historians as distorted; they argue it represents an 'ideal' that 'smothers the actual messiness of mapping with [...] uniformity and transcultural universality' (Edney, 2019:1).

Contemporary mapping theories increasingly understand maps not as representations of reality but as tools for producing spatial knowledge. Schranz (2021) argues that mapping should be understood as an epistemic practice through which spatial phenomena are investigated, interpreted, and communicated. Rather than merely recording existing conditions, maps operate as an approach to inquiry capable of revealing social relations, temporal dynamics, and spatial narratives. Similarly, in *Rethinking Maps* (2007) Kitchin and Dodge suggest that maps are better understood as 'processes' rather than fixed objects, continually produced through social, technological, and political practices. These perspectives shift mapping from a technical activity to a critical research methodology.

Maps are not neutral representations of space but political instruments that shape how territories, communities, and resources become visible or invisible. Scholars within critical cartography have long argued that mapping practices reflect and reproduce power relations, since decisions about scale, symbols, boundaries, and omissions determine what becomes spatial knowledge (Harley, 1992; Crampton, 2001; Corner, 2011). Mapping therefore participates in the production of authority: it legitimises certain claims to land, infrastructure, or governance while marginalising alternative spatial narratives. Critical cartography examines who produces maps, for whom, and with what consequences. These concerns are particularly relevant in post-colonial contexts where mapping historically supported territorial control and resource extraction.

When addressing these ideals through a decolonial critique, it becomes apparent that the portrayal of cartography as 'factual' and 'moral' has shaped its utilisation as a tool for colonisation. The distinctions between cartography and map-making reveal a distinction between what is deemed 'legitimate' and 'illegitimate' through this lens, with legitimacy conferred upon those who formally practice cartography. This helps 'us gain a historical understanding of cartographic silence' (Harley, 2001:86) and illustrates how 'cartography has been a top-down way of building the world [...] which] has been fundamental to the project of Western exploitation, erasure, and ownership' (Jaojoco, 2018).

Maps do not simply describe spatial conditions; they actively participate in

the production of spatial authority. Decisions regarding scale, classification, boundaries, and omissions determine whose experiences and territories become visible and whose remain marginalised. As Harley (1993) and Crampton (2001) argue, mapping practices are embedded within broader systems of political power and knowledge production. In this sense, maps influence how urban environments are interpreted and governed, shaping what is recognised as legitimate spatial knowledge while excluding alternative narratives.

Colonial administrations frequently used cartography to survey territories, define borders, and regulate populations, transforming complex lived landscapes into legible administrative systems (Scott, 1998). In this sense, cartography was deeply implicated in the colonial project, producing spatial knowledge that privileged imperial authority while marginalising local understandings of territory.

Mapping practices in Lebanon have historically been shaped by colonial administration, conflict, and rapid urban transformation. During the French Mandate (1920–1943), modern cartographic surveys were introduced to support administrative governance and infrastructure planning. These mapping systems prioritised territorial control and urban regulation, often overlooking local spatial knowledge and informal settlement patterns. In recent decades, mapping has also been adopted by civil society organisations, researchers, and activists to document environmental risks, informal housing, and socio-spatial inequalities within Beirut. Such initiatives demonstrate how mapping can function both as an instrument of governance and as a tool through which alternative spatial narratives are articulated.

Recognising the political nature of mapping is therefore essential when employing map-making as a research methodology. This shift from cartography as representation to mapping as a critical and political practice establishes the conceptual foundation for the sections that follow. The chapter now moves from considering critical and decolonial understandings of mapping, to participatory mapping practices, and finally to child-centred approaches, to position the *Transformative Lines* approach within a coherent trajectory that links theory directly to methodological application.

Linda T. Smith critiques ‘research through “imperial eyes” [as] an approach which assumes that Western ideas about the most fundamental things are the only ideas possible to hold’ (Smith, 2021:63). Therefore, in addressing critiques of the term ‘cartography’ and to challenge these established

paradigms – particularly within the non-Western context of the research – mapping processes will be referred to as map-making. The term ‘cartography’ will be used exclusively in relation to its application in the works and discussions of others. This choice looks to address ‘the challenge for researchers of decolonising methodologies [...] simultaneously [working] with colonial and Indigenous concepts of knowledge, decentring one while centring the other’ (Smith, 2021:xii): decentring the traditional Western term cartography, while centring the more universally applicable term map-making.

2.3 MAP-MAKING AS A PRACTICE

Having established the political and epistemological dimensions of mapping, the following section examines how mapping has been used within architectural research and how these practices inform the methodological approach adopted in this study.

Maps in architecture have historically served to situate proposals within both their immediate surroundings and broader context. They are commonly used to support research and validate design proposals, by representing site elements that are both physical and conceptual – offering insights into topography.

Socially oriented architectural practices increasingly recognise that urban space operates across physical, social, and symbolic dimensions (Callaway, 1993; Vaughan, 2018). This supports the idea that the relationship between social and spatial considerations transcends theoretical discussions and should be integral to architectural practice. Consequently, social and cultural data have become increasingly central to architectural mapping. Such maps often integrate geographic and physical data with layered social and metaphysical insights. This process enables ‘a new ways of seeing the [space]’ (Dovey, Ristic & Pafka, 2018:7). As a result, the maps produced are both recognisable and increasingly informative, establishing a common framework for narrative expression.

With the evolving understanding of map-making and the advancement technologies, mapping practices span from ordinance surveys to abstract interpretations of space. These map types may include Geographic Information Systems (GIS) maps, land-use maps, narrative maps, and time-space charts, among others. The works of Bernardo Secchi and Paola Vigano, exemplify this use of multi-form mapping. In *The Manhattan Transcripts* (1981), Tschumi uses a combination of photography, geometric

symbols, and three-dimensional abstractions not only to map a specific location but also to convey a narrative intricately expressed through time.

Tschumi's experimental mappings demonstrate how spatial representation can incorporate narrative, movement, and temporal experience. This approach is particularly relevant to this research, which treats mapping not as a static description but as a method for capturing experiential and narrative dimensions of urban space. While Tschumi's work does not emerge from participatory or decolonial traditions, it is referenced here specifically for its contribution to expanding the representational capacity of mapping beyond geographic description. It represents a disciplinary precedent for understanding mapping as a narrative and interpretive act.

REDACTED

REDACTED

Fig. 2.3.

MT1 – The Park (1981).

[Source: Bernard Tschumi]

Despite advances in mapping, maps should be evaluated for reliability as an ethical research practice. Peter Barber notes, 'maps are one of the greatest illusions' (1993:8). No map offers a fully accurate representation of space – even those produced through technology. Photographs, for instance, tend to 'flatten' a view. By acknowledging maps as descriptive rather than objective (challenging traditional philosophies within cartography), researchers can access richer qualitative data for analysis. Maps are inherently selective representations shaped by the decisions of the map-maker – highlighting the risk of bias, especially when mapping unfamiliar localities. Recognising this, maps produced for this research should be viewed as diagrammatic expressions, with acknowledged embedded bias formed from the author's positionality as a researcher.

Challenging the notion of cartographic mapping as a 'neutral' endeavour, critical cartography suggests that critical theory must be integrated into both the creation and analysis of maps, given that maps tend to reinforce prevailing socio-spatial power structures and that, in the context of the practice, 'cartographers manufacture power: they create a spatial panopticon' (Harley, 1992:13). Prominent critical cartographers such as James Corner, contend that maps present 'an eidetic fiction constructed from factual observation', characterised by an 'inevitable abstractness' as a 'result of selection, omission, isolation, distance and codification' (2011:215).

In an exploration of map-making as a tool for envisioning futures, feminist theorist Nishat Awan extends James Corner's critique of maps as 'abstractions'. She advocates for mapping practices that use the 'abstractions of maps [...] to mediate between the realm of representation and lived realities' (2017:33). She proposes that 'maps could instead describe social relations [...] that transcend spatial proximity [...] to mediate between different types of knowledge and constructions of space' (Awan, 2017:33), negotiating between expert and local knowledge. Reinforcing the preference for the use of the term 'cartography' solely in literary references within this research, Awan (2017) suggests that using 'mapping' over 'cartography' is an important way to validate non-expert, community-based knowledge and challenge professionalised norms.

Further to critical cartography, counter-mapping emerged as a strategy through which marginalised communities produce alternative spatial representations that challenge official maps and territorial claims (Peluso, 1995). Such practices have been widely used in indigenous land-rights struggles, environmental justice movements, and urban activism. By producing their own maps, communities contest dominant spatial narratives and assert alternative forms of spatial knowledge. This principle of counter-mapping offers greater opportunities for local populations lacking architectural or cartographic expertise to engage with the reading and making of maps, emphasising the significance of the act in straightforward terminology rather than through the language of academic 'outsiders'.

'One problem with maps about certain communities authored by an outsider is the acquisition of an authentic perspective. This is why Caquard and Cartwright (2014) formulate a shift of importance from the map towards the narrative of the mapmaking process. These narratives should shed a critical light on the cartographic process and the persons behind the map.' (Reumont, 2021:307)

In decolonial architectural practices, especially where local ties are absent, participatory map-making becomes essential. Consequently, participatory map-making becomes a distinct feature of this type of study. However, as Marie Reumont (2021) notes, participatory mapping methodologies often demand skills communities may not have, limiting 'participation' to knowledge sharing. Within this study this is addressed through the curation of skill-inclusive mapping workshops.

2.4 PARTICIPATORY MAPPING AND COLLECTIVE ASPIRATIONS

One of the objectives of this thesis was to investigate alternative potential urban imaginaries that may not be evident in the existing collective narrative in Beirut, Lebanon. These narratives – or aspirations – are often framed within architectural and urban development literature as 'Urban Imaginaries'. Urban imaginaries can present 'a transformed body of urban residents secure in their homes and in their collective power over land and resources, with an ability to transform space to support the fullness of life not profit' (Gibbons, 2019:404). The pursuit of the urban imaginary – reflecting the collective aspirations of a community and the capacity to 'transform space' – requires the active participation of community members.

Current discourse surrounding urban imaginaries is intrinsically linked to communal aspiration. The aspirations of local citizens, particularly those from under-represented groups, should be considered. It is the responsibility of the researcher – often viewed as an 'outsider' – to frame inquiries in a manner that facilitates opportunities for locals to contribute. This concept is explored by Arjun Appadurai in his 2004 work, *The Capacity to Aspire: Culture and Terms of Recognition*. Appadurai (2004) argues that participation must extend beyond symbolic consultation and instead enable communities to actively articulate their aspirations and influence development processes. It is insufficient for residents merely to endorse an interventionist proposal and consider this act of approval as a form of participation. The people, their rituals, and customs must be involved throughout the entire process to truly create a framework that can be labelled 'participatory' and reflective of a true urban imaginary. This engagement should begin with an invitation to participate: 'invitation and imaginary are fundamentally about belonging and inclusion' and it is the 'urban designers [who] shape the invitations to use' (Berney, 2023:470).

In architectural and urban design research, participatory mapping is

increasingly understood as a method of co-producing spatial knowledge. Nishat Awan, Tatjana Schneider, and Jeremy Till (2011) argue that these practices enable communities to express spatial narratives that challenge prevailing planning paradigms and envision alternative futures. Participatory mapping involves community members actively contributing to the creation and interpretation of spatial information and recognises that people living in a place possess valuable forms of spatial knowledge often absent from formal cartographic representations.

Robert Chambers' work *Participatory Rural Appraisal* (1992) illustrates how communities can create their own spatial representations through activities such as drawing, diagramming, and storytelling. These techniques aim to shift the authority of knowledge production from external experts to local populations. In this context, the primary value of maps lies in their capacity to convey local experiences, practices, and connections to place, rather than solely emphasising geographic accuracy.

While participatory mapping has been widely applied in community-based research, its use with children remains comparatively underexplored within architectural methodologies. Yet children often engage with spatial environments through visual and experiential practices such as drawing, tracing routes, and identifying meaningful landmarks. These practices align closely with participatory mapping techniques that rely on simple visual representation rather than technical cartographic expertise. Recognising this overlap, this research adopts mapping as a participatory method capable of capturing children's spatial experiences and perceptions of the city. In doing so, the act of drawing and mapping becomes both a research tool and a mechanism through which children can articulate their own urban imaginaries.

While participatory mapping is frequently presented as an empowering research method, scholars caution that such practices may reproduce existing power relations if participation remains limited to consultation rather than shared decision-making. Cooke and Kothari (2001) argue that participatory processes can become 'tyrannies of participation' when they symbolically include communities without meaningfully redistributing authority. Similarly, participatory mapping may privilege individuals who possess greater confidence, literacy, or familiarity with spatial representation. Recognising these limitations, this research treats participatory mapping not simply as a tool for consultation but as a process through which participants actively contribute to the interpretation of spatial experience.

2.5 CHILDREN'S PARTICIPATION IN URBAN RESEARCH

'For scholars, the temptation is strong to frame their experiences as if children were a subset of the adult population. Unless they are the focal point of the story, children's experiences are often cast across the arc of the adult narrative. They are painted onto the backdrop while their parents and caretakers squarely occupy the colourful central foreground.' (Honeck and Marten, 2019:230)

Participatory development is often framed as having the capacity to produce more equitable urban environments by expanding the range of actors involved in spatial decision making. Hurst defines participatory design as 'the active involvement of the end-user' (2000:4). Excluding entire demographics from these processes undermines claims of equity and can reinforce existing power hierarchies.

Children are frequently excluded from participation, as they are expected to operate within adult-led institutional frameworks (Groundwater-Smith, Dockett & Bottrell, 2015). As a result, their experiences are often mediated through adult narratives rather than recognised as independent contributions to urban knowledge (Honeck & Marten, 2019).

Within child-centred urban research, play is understood as a primary mode through which children explore and interpret spatial environments. Play therefore operates as an epistemological process through which children understand spatial relationships, risks, and opportunities (Gill, 2021).

The recognition of children as legitimate participants in decision-making processes is reinforced by international policy frameworks. Article 12 of the Convention on the Rights of the Child affirms that children's views should inform decision-making and policy development in all relevant contexts of children's lives (United Nations, 2009). Within urban development contexts, this principle has increasingly informed participatory design methodologies that seek to involve children as contributors to spatial knowledge rather than passive recipients of adult-designed spaces.

Scholars therefore increasingly recognise children as legitimate urban actors whose experiential knowledge – particularly regarding mobility, play, and everyday spatial use – can reveal spatial dynamics overlooked in conventional planning processes. As Aldo van Eyck notes, 'in cities [children] will discover places where to play [...] material with which to construct, [...] and other facilities imaginatively designed, waiting to be

imaginatively used' (Eyck, 2008:23). Tim Gill (2021) similarly highlights that children's everyday movements through neighbourhood environments – travelling to school, visiting friends, and exploring local spaces – often reveal barriers and opportunities that may not be apparent to adult planners.

Although children may not translate ideas directly into built form, their imaginative input can still inform design processes. In *Designing for Play*, Laris notes that designers must 'translate an imaginative idea into a tangible form [... as] developing imaginative ideas into practical proposals, is something that children do not do very well' (Laris, 2005:17). To begin this process, children should be included in formal domains of participation – workshops, focus-groups, observations – offering them spaces to contribute ideas and opinions within their understanding.

'There is no one best model or method for involving children and young people' (Children's Play Council, 2002:31). Furthermore, the nature of children's participation will vary according to their age and cognitive development; younger children often engage more effectively through drawing and play-based activities, while older children can contribute through discussion and spatial analysis (Hart, 1992; Matthews, 1990). Participatory methods must therefore be adapted to different levels of verbal, cognitive, and representational ability.

Participatory design methodologies developed in humanitarian and development contexts have also demonstrated practical approaches to involving children in spatial decision-making. The *DECID handbook*, produced by CatalyticAction (2021), provides guidance on participatory processes that enable children to contribute to the design of neighbourhood spaces, particularly in communities affected by displacement or rapid urban transformation. These approaches frequently rely on visual and interactive methods – such as drawing, mapping, and model-making – which align with children's natural modes of expression.

However, regarding the inclusion of children, scholars caution that participatory initiatives must avoid tokenistic consultation that fails to influence decision-making. Roger Hart's *Ladder of Participation* (1992) illustrates how participatory initiatives can range from symbolic consultation to genuine collaboration in which young people share decision-making power. Participatory processes must therefore ensure children's contributions meaningfully inform outcomes.

2.6 PARTICIPATORY MAPPING WITH CHILDREN

Visual representation plays a particularly important role in participatory research with children. Developmental research suggests that drawing is one of the primary ways children communicate spatial understanding, making mapping an especially appropriate methodological tool.

Mapping has become an increasingly valuable participatory approach when engaging with children in urban research and design. Unlike conventional interview methods, which rely heavily on verbal articulation, mapping activities enable children to express their spatial experiences visually. In *Because we are all People* (2016), Victoria Derr and Emily Tarantini discuss how children’s maps often highlight routes to school, informal play areas, and social gathering spots that are frequently overlooked in formal planning documents.

Kevin Lynch’s work on the ‘image of the city’ provides an important framework for understanding such spatial perceptions. Lynch emphasises the significance of addressing the perspectives of residents when defining urban spaces in relation to elements described within the ‘image of the city[:] Paths, Edges, Districts, Nodes, and Landmarks’ (Lynch, 1960). He argues that to understand ‘environments at the urban scale of size, time, and complexity... we must consider the city being perceived by its inhabitants’ (1960:3). Lynch identifies two key principles for this approach: ‘the interview of a small sample of citizens with regard to their image of the environment, and a systematic examination of the environmental image evoked in trained observers in the field’ (1960:140). The role of the researcher is to invoke an expert visual construction of the participant-led articulations of space.

Children’s mapping practices often emphasise experiential and emotional dimensions. This tendency reflects Kevin Lynch’s (1960) observation that urban environments are commonly understood through cognitive mapping processes structured around paths, edges, nodes, and landmarks.

Michael Hugh Matthews (1990) argues that children’s drawings should not be interpreted merely as illustrations but as meaningful representations of spatial thinking. By encouraging children to represent their environments visually, researchers can gain insights into perceptions of safety, play, accessibility, and community belonging. However, these outputs should not be interpreted as precise cartographic records. Instead, they function as narrative artefacts that reveal how children perceive, interpret, and emotionally engage with their environments.



Fig. 2.4.
Elements of a City (1960).
[Source: Kevin Lynch]

While participatory mapping with children is often framed in terms of inclusion, this research positions children as contributors to knowledge production with distinct analytical value. Through embodied and routine practices – such as play, movement, and informal interaction – children reveal spatial conditions and meanings often overlooked in adult-centred analyses. Their mappings provide access to experiential and relational knowledge not easily captured through conventional architectural or planning methods, supporting their role as co-analysts.

These mappings, however, require critical interpretation. They are not treated as objective records but as situated artefacts shaped by memory, developmental stage, and individual perception. Their value lies not in cartographic accuracy but in their ability to reveal patterns of experience and meaning, interpreted alongside other data. The *Transformative Lines* approach is not child-exclusive but designed as an adaptable participatory framework. Engagement with children serves to test its sensitivity to under-represented groups, ensuring that the tools developed are accessible, inclusive, and capable of capturing diverse forms of spatial knowledge.

In Beirut, Lebanon, children are often excluded from development processes that impact them, as youth participation in decision-making remains limited within formal urban governance structures (Afifi et al., 2011). Despite being residents, their perspectives are rarely acknowledged in decision-making that directly impacts their lives. Cultural dynamics can further complicate participation, particularly in communities where hierarchical or patriarchal norms discourage young people from voicing disagreement in front of adults.

Within this project children are treated not only as a marginalised group but also as co-analysts who contribute to the interpretation of spatial experience. Their drawings and mappings are therefore understood not simply as representations but as analytical artefacts that reveal how urban environments are navigated, interpreted, and imagined by younger residents.

The mapping workshops developed for this study were therefore designed to align with children's existing visual and spatial practices. Rather than requiring participants to produce technically accurate maps, the workshops emphasised simple drawing techniques centred on the use of lines, shapes and colours to represent routes, connections, and boundaries. Through this approach, mapping becomes both a participatory activity and a research method for exploring the shared urban imaginaries of young residents. These insights form a key component of the *Transformative*

2.7 DECOLONIAL METHODS OF RESEARCH

'I urge us, the researchers working with indigenous communities in mapping projects, to engage in continuous self-reflection, to develop our critical awareness of our own ontological bias as well as our own mapping traditions [...] Otherwise, we risk indigenous mapping (unintentionally) perpetuating colonial practices instead of assisting within the wider project of a decolonialisation of maps by reinforcing the primacy of western ontology and thereby contributing to a further silencing of indigenous ontologies.'
(Dieckmann, 2021:127)

As a researcher taught within the structures of Western academia, it is imperative to recognise the historical context of conducting research in locations affected by colonisation. The potential colonial implications of the chosen methods must be carefully considered, especially those related to the ethics of place-based research. To align the research with decolonial practices, it was essential to engage with literature on decolonial research methodologies, looking towards prominent scholars in the field of decolonial research methodologies, such as Linda Tuhiwai Smith and Bagele Chisa, who emphasise the researcher's responsibility in conducting 'research without perpetuating self-serving western research paradigms' (Chisa, 2022:5). Furthermore, a fundamental aspect of the research involved exploring more specific decolonial methodologies as they pertain to mapping as an emerging discourse, acknowledging 'the engagement of mapping in the long and clearly unfinished process of decolonisation [...] few scholars have addressed this issue. However, the subject has not been examined systematically or comprehensively' (Akerman, 2017:1). Decolonial research methodologies serve not only as theoretical frameworks but also as practical strategies for advancing knowledge by challenging Western 'epistemic hegemony'.

'If we want to communicate meaning, we have to think about how we can express our own personal experiences and how we can come to understand somebody else's experience' (Reumont, 2021:294). As a researcher, 'it is essential [...] to acknowledge that their positionality is unique to them and that it can impact all aspects and stages of the research process' (Holmes, 2020:2/3). As a researcher of Lebanese heritage educated within Western academia, my positionality reflects both diasporic familiarity with Beirut and the distance of an external researcher.

In her book *Reconstructing Beirut*, Aseel Sawalha observes that due to the fact that 'the physical landscapes changed constantly, Beirutis lived in a state of liminality and uncertainty' (Sawalha, 2010:14) and have been 'forced to employ multiple strategies in their daily lives to survive the difficulties they encountered. They proclaimed multiple identities, formed formal and informal alliances, and established socioeconomic and political networks to negotiate for urban rights and services' (2010:15). As an Arab woman with connections to the city, like myself, she was not immune to this 'shifting' of identity. 'Like the residents of the city, as a researcher, I had to alter my politically complex identity to cope with this challenging urban setting [...] I was forced to adopt some identities and renounce others as needed' (Sawalha, 2010:15). She goes on to challenge the ethical considerations and power relations involved in embracing multiple identities. These discussions of self, particularly in relation to decolonial research practices, have enabled me to articulate my fluid positionality within this socially intricate context: as both a Western researcher and a member of the Lebanese diaspora, recognising how additional identity factors such as gender, religion, sect, age, and politics influence access. These aspects of my identity as a researcher were fundamental considerations prior to beginning my fieldwork and influenced my approach, as they compelled me to define my researcher positionality rather than assume an objective ethnographic stance.

Within this research, decolonial practice is not treated solely as a theoretical positioning but is utilised through methodological decisions that seek to challenge extractive and hierarchical modes of knowledge production. This includes redistributing interpretive authority to participants, prioritising lived and experiential spatial knowledge over externally imposed representations and designing mapping activities that do not require technical or cartographic expertise. By structuring the research process as a collaborative and iterative act of map-making, rather than a process of data extraction, the methodology actively resists the legacy of colonial cartography as a tool of control and instead positions mapping as a site of negotiation, plurality, and co-produced meaning.

2.8 THE TRANSFORMATIVE LINES FRAMEWORK

This research operates at the intersection of critical and decolonial mapping, child-rights discourse, and participatory urbanism, which together inform the *Transformative Lines* approach. Decolonial mapping challenges expert-led spatial representation by foregrounding situated and marginalised knowledge. Meanwhile, child-rights discourse – particularly as articulated

through the United Nations Convention on the Rights of the Child – positions children as legitimate urban actors. Participatory urbanism provides the framework for enacting these principles through co-production, shared authorship, and the redistribution of epistemic authority. Within this study, these strands come together through participatory mapping workshops that reposition children as contributors to spatial knowledge and challenge conventional hierarchies of representation.

Despite extensive literature across critical cartography, participatory mapping, and child-centred urban research, these fields are rarely integrated within architectural methodologies. While critical cartography reveals how mapping shapes spatial knowledge and power, and participatory urbanism emphasises local experiential knowledge, children's spatial perspectives remain under-represented in architectural research. This thesis addresses this gap by developing the *Transformative Lines* approach, combining participatory mapping with children, critical mapping theory, and decolonial practices to generate spatial knowledge that informs architectural design and urban analysis.

In critical cartography, maps are understood not as objective representations but as epistemic tools that actively shape spatial understanding. Mapping involves processes of abstraction, selection, and interpretation through which certain spatial narratives become visible while others remain marginalised. Acknowledging the constructed nature of maps opens up opportunities for alternative mapping practices that challenge prevailing spatial representations.

Participatory urbanism extends this critique by emphasising the importance of experiential knowledge held by residents and everyday users of urban environments. It challenges traditional, expert-led models of spatial analysis and advocates for participatory approaches that incorporate diverse perspectives to better understand and shape urban spaces. Participatory mapping serves as an effective tool for documenting and integrating these lived experiences.

Within this research, children are positioned as significant yet frequently overlooked urban users, despite their regular interactions with the environment through movement, play, and daily navigation.

Alongside these participatory mappings, the architectural researcher remains an expert mapper within the developed *Transformative Lines* approach. While participants contribute contextual and experiential spatial knowledge, the researcher conducts analytical mapping to

interpret, synthesise, and translate these insights. This involves identifying patterns, relationships, and spatial structures not immediately visible in participatory mappings, and situating them within broader urban, social, and architectural contexts.

Rather than reinforcing a hierarchy between expert and participant knowledge, this dual approach to data collection operates dialogically: participant mappings inform analysis, while architectural interpretation translates them into spatial strategies and design propositions. This methodology redefines architectural expertise as a mediating and interpretive practice, working in partnership with participatory knowledge production.

The analytical component of the methodology draws on Tim Ingold's conceptualisation of lines (2016) as fundamental elements through which humans engage with the world. In this study, lines are understood both as physical features of urban space – such as pathways and boundaries – and as relational trajectories shaped by movement and narrative. Their intersections reveal Transformative Junctions, spatial moments where multiple experiences and conditions converge, indicating potential sites for socially responsive architectural intervention.

2.9 SUMMARY

This chapter has examined mapping as a critical spatial practice rather than a neutral representational tool. Drawing on literature from critical cartography and spatial theory, it has demonstrated how maps actively shape spatial knowledge by determining what and who becomes visible within urban narratives. Historical and contemporary scholarship highlights the ways in which mapping has been implicated in colonial governance and territorial control, while more recent approaches such as counter-mapping and participatory mapping seek to challenge these power relations by enabling alternative aspects of spatial knowledge to emerge.

The chapter has further explored the role of participatory mapping within urban research, emphasising its potential for incorporating experiential knowledge from communities whose perspectives are often marginalised in planning and architectural processes. Within this context, children's spatial experiences represent a particularly under-represented yet valuable form of urban knowledge.

By bringing together critical mapping theory, participatory design practices, and children's spatial knowledge, the chapter has established the theoretical foundation for the *Transformative Lines* approach developed in this thesis. This framework positions mapping not only as a tool for spatial analysis but as a participatory and decolonial research practice capable of revealing alternative understandings of urban space.

The following chapter situates this research within the urban and historical context of Beirut, often described as a 'Phoenix City' due to its repeated cycles of destruction and reconstruction. It examines the political, social, and spatial processes that have shaped the city's development, providing the contextual foundation for understanding how children's mappings reveal alternative readings of Beirut's urban landscape.

THE PHOENIX CITY

Introducing the Historical and Architectural Contexts of
Sabra and Karantina, Beirut.

3.1 INTRODUCTION

While the pervious chapter positions the research within its wider literary conceptual framework, this chapter discusses the contextual backdrop. The project is situated in Beirut, Lebanon, a location which can be considered a model setting for research exploring shared urban imaginaries and urban development through the lens of a lines-based mapping methodology. Lebanon, located between the Mediterranean Basin and the Arabian Peninsula (Collelo, 1987), has been home to some of the world's oldest civilisations, with 'archaeological excavations at Byblos indicat[ing] that the site has been continually inhabited since at least 5000 B.C' (Dumper & Stanley, 2006:104). The current boundaries of Lebanon were established in 1920 under the French occupational mandate (Brunet-Jailly, 2015). This colonial history has resulted in several land disputes, resulting in ongoing violence and wars, as well as lasting socio-cultural repercussions.

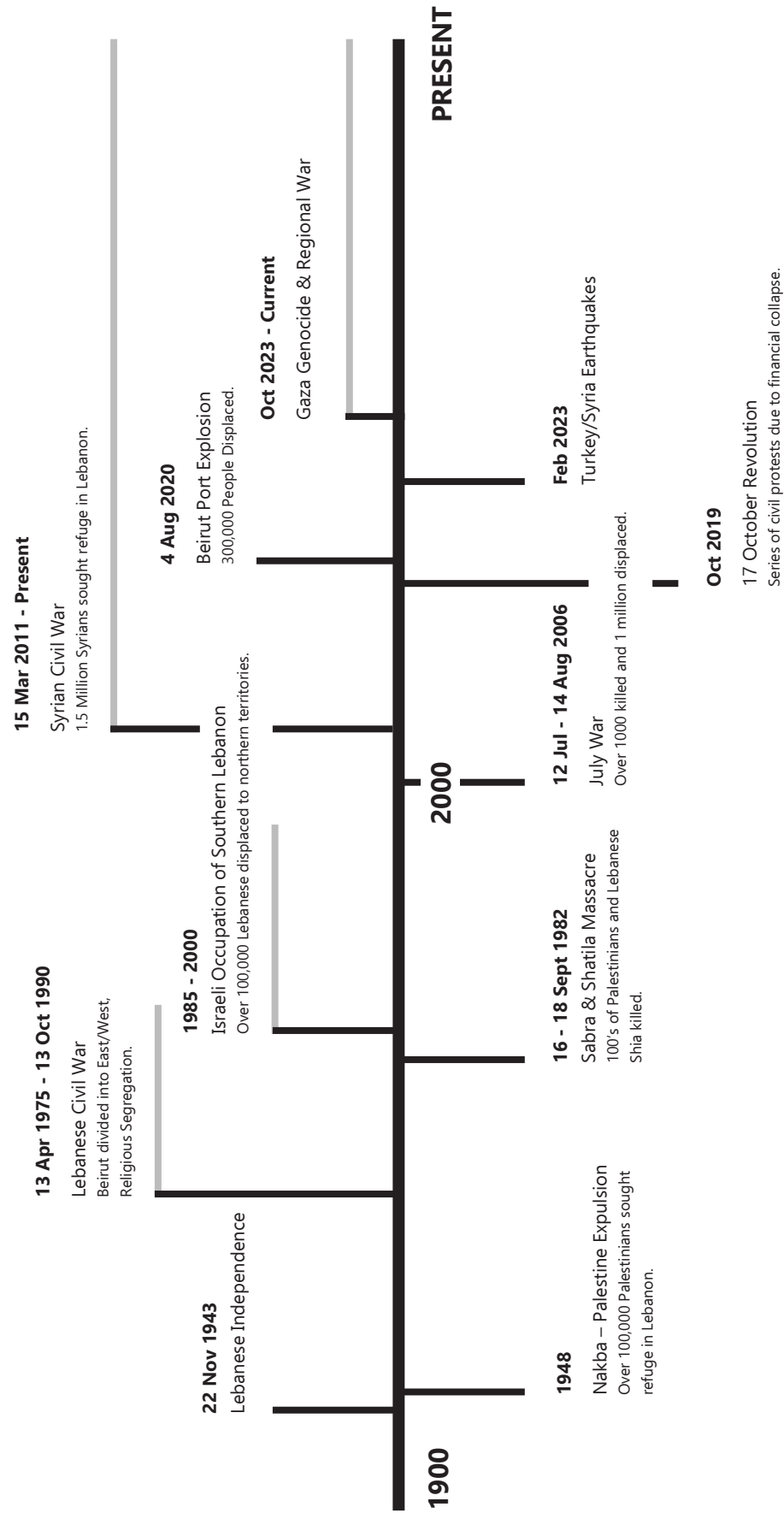
While it is essential to frame this research within the country's historical context, it is important to recognise that 'the modern history of Lebanon is still full of serious gaps, especially concerning the post-Independence [1943] period' (Traboulsi, 2012:vii). This gap is attributed to 'writings on Lebanon, and perceptions of Lebanon, [...] often sacrific[ing] economic and social history in favour of an exclusively political perspective' (Traboulsi, 2012:viii).



Fig. 3.1.
Photograph overlooking
city of Beirut, February
2023.

Documenting the nation’s complex history in brief is challenging, but several key events in its recent past are relevant and described below.

Fig. 3.2.
Timeline of key events in Lebanon since Independence.



Beirut, as the capital city of Lebanon, has been at the centre of numerous challenging historical events, including wars, shifts in refugee populations, economic collapse, and the devastating Beirut Blast of 2020. Beirut is often described as the 'Phoenix City' (Llewellyn, 2010) due to the perseverance of its residents; however, its volatile history has led to the emergence of 'a new kind of city, a new kind of urban society with a new kind of relationship with the rural hinterland' (Hourani, 1983:4). Beirut, Lebanon, 'is a city notorious for its crumbling infrastructure, its lack of affordable housing, and its aversion to planning' (Fawaz, n.d.).

It is anticipated that the topic of urban development in Beirut will remain prominent in discourse within the global architectural community for years to come, particularly following the extensive destruction caused by the Gaza/Israel war, in which Lebanon was directly impacted: 'more than 1.2 million people were displaced by the time of the November ceasefire, thousands of buildings and houses were destroyed, and entire border villages were reduced to rubble' (Human Rights Watch, 2025). This situation presents an integral opportunity for the city to rebuild in a way that directly reflects the shared imaginaries of its residents, especially those who are often marginalised. While my thesis began prior to the start of the conflict, the implications of the war have significantly influenced my site-based research approach throughout my study period (2023–2025). This has resulted in elements related to assessing how my research may be applied within the ever-changing landscape of Beirut, Lebanon – even when such change results from destruction.

This chapter will outline the historical and architectural context of the broader research city of Beirut, Lebanon. These topics will be discussed in the setting of the chosen neighbourhood-scale sites of Sabra and Karantina, Beirut. Furthermore, participatory architectural practices within the wider city will be assessed through the topics of decolonial research and mapping as a participatory approach.

3.2 BEIRUT: THE PHOENIX CITY

*For this subchapter please refer to **Appendix A - Portfolio Drawings: '3.2 Beirut: The Phoenix City'***

Beirut is often described as a city characterised by informality, fragmentation, or even an 'aversion to planning' (Fawaz, 2016). However, such descriptions may overlook the political processes that shape the production of urban space. Rather than the absence of planning, Beirut reflects a mode of urban development shaped by centralised legal

frameworks, sectarian negotiations, donor interventions, and crisis-driven reconstruction. Understanding how urban projects are realised within the city is therefore crucial for positioning participatory architectural practices effectively.

In terms of formal governance, urban planning in Lebanon operates through a centralised administrative structure. In practice, however, municipal authority is limited by financial constraints, bureaucratic fragmentation, and political interference. Plans are often outdated and selectively enforced, and large-scale infrastructure or reconstruction projects are frequently coordinated by the Council for Development and Reconstruction (CDR).

Political parties, religious institutions, private investors, and port authorities all influence territorial decisions. As a result, urban growth typically occurs through a combination of formal regulations and informal negotiations. Refugee camps such as Shatila Refugee Camp operate under parallel governance structures involving the United Nations Relief and Works Agency (UNRWA) and camp-based committees, producing layered sovereignties within the city's fabric. In many marginalised neighbourhoods, urban initiatives are often initiated or funded by non-governmental organisations (NGOs) and international donors rather than through government-led planning.

Scholars contend that planning tools in Lebanon are not purely neutral or technical but serve as mechanisms involved in defining sectarian boundaries. In *For the War Yet to Come* (2018) Hiba Bou Akar discusses how zoning and development decisions stabilise or contest political geographies. Beirut's recurring cycles of conflict and reconstruction further influence the evolving urban environment.

Given the volatile history of the city, Beirut's development has become a key topic in academic, political, and social discussions. A paper by David Aouad and Noushig Kaloustian on sustainable planning post-Beirut blast notes that 'the impact of the blast provides an opportunity to reassess the relationship between many relevant aspects of the city planning including but not limited to: the relationship of the city to its suburbs, waterfront, and city centre; the lack of local planning and cross sectorial master plans; [...] the city growth and increased haphazard urbanisation; [...] the lack of public spaces; impacts on urban climate' (Aouad and Kaloustian, 2021:1). This opens up a key opportunity to explore and address the shared urban imaginaries of Beirut's citizens, particularly those, such as children, who have historically lacked agency in the face of socio-political struggles.

As a continuously evolving city, Beirut requires ongoing study and structural development to meet the needs and aspirations of its residents. This is reflected in its 'unplanned' development, with informal settlements and refugee camps spread across the city. While these camps were established in the late 20th century and subject to regulations aimed at creating a 'conceptual separation' between Palestinian camps and Lebanese neighbourhoods, many are 'now part of the urban texture of metropolitan Beirut and the city's "misery belt", an axis of low-income and informal settlements surrounding Beirut's city centre' (Martin, 2015:4).

The aftermath of the 2020 Beirut Port explosion illustrates this situation. While participatory planning is increasingly recognised globally as a critical component of inclusive urban development, it remains largely non-institutionalised within the Lebanese planning system. Participation in Beirut typically occurs through project-based, externally driven initiatives, often led by NGOs, international organisations, or academic institutions rather than embedded within formal state-led planning frameworks. This may lead to questions being raised regarding whose voices are included, under what conditions, and to what extent such engagement can influence broader spatial decision-making processes.

In this fragmented institutional environment, alternative forms of spatial knowledge have also emerged. Research institutions such as Beirut Urban Lab (BUL) have developed open urban databases and mapping platforms that reveal patterns of ownership, vacancy, and transformation across the city. Founded in 2006 by Ahmad Gharbieh, who began with daily maps during the 2006 Israeli assault on Lebanon, BUL uses mapping as an 'analytical research method' to study urban transformations and promote inclusivity (BUL, n.d.). Notable projects include *Beirut: A City for Sale?* (2020), which analysed Beirut's housing market from 1996 to 2019, and the *Beirut Built Environment Database* (2020), a mapping platform aimed at supporting 'researchers, professionals, and activists who are interested in investigations of the city's built environment to rely on its layers as a basis for more advanced explorations of urban trends' (BUL, 2020). Participatory mapping further builds upon these efforts by emphasising lived experiences and everyday spatial negotiations. While this database offers a more accessible foundation, it remains limited in representing everyday spatial experiences of residents in the neighbourhoods which are the focus of this thesis. This reinforces the need for expansive complementary, field-based and participatory data collection.

Currently, few digital databases for Beirut exist, and even fewer are regularly updated. The BUL database, based on 2019 records, coincided

with the economic crisis that year, which significantly slowed the city's development. This map served as the starting point for my own field research and was further refined through updated surveys to ensure accuracy and reflect any recent changes that have occurred since its publication in 2020.

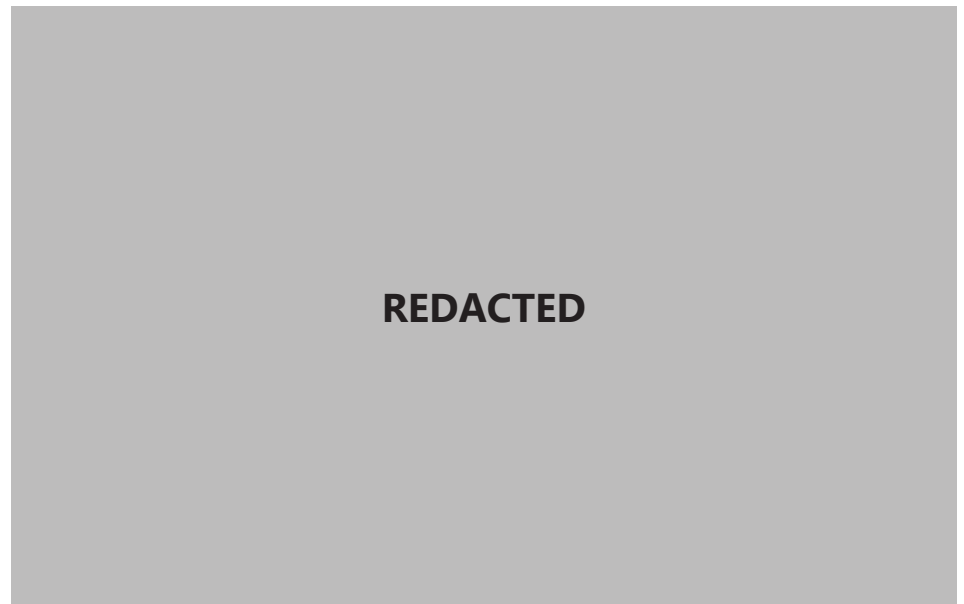


Fig. 3.3.

Screenshot of the '*Beirut Built Environment Database*' web platform (2020). [Source: Beirut Urban Lab]

Several other participatory initiatives are currently ongoing in Beirut, employing different methodologies and producing various physical outputs, all aimed at fostering urban development that benefits communities. Within this research context, notable projects such as the RPPL Initiative and the Bus Map Project have emerged. Established in 2018, the RPPL Initiative is a collective of young architects and urbanists engaged in promoting public spaces across Lebanon. The Bus Map Project, on the other hand, is an online platform that enables the public to access and contribute to a participatory map of Beirut's bus routes. While the RPPL Initiative favours in-person co-production mapping with select participants, the Bus Map Project emphasises broad accessibility through the internet.

Within Beirut's complex planning environment, neighbourhoods experience these governance dynamics to varying degrees. Areas located at the margins of formal planning – often characterised by refugee populations, informal housing, and limited municipal investment – become key sites where donor-driven projects, NGO initiatives, and community-led practices intersect. Sabra and Karantina exemplify this condition. Both neighbourhoods have been shaped by displacement, infrastructural neglect, and recurrent episodes of violence, while also being focal points for humanitarian intervention and grassroots organisation. Examining

these areas therefore provides insight into how participatory architectural practices operate within Beirut's layered systems of governance, reconstruction, and spatial negotiation.

3.3 SABRA, BEIRUT

*For this subchapter please refer to **Appendix A - Portfolio Drawings: '3.3 Sabra, Beirut'***

Sabra's spatial and social composition cannot be separated from these broader governance dynamics. As a densely populated neighbourhood adjacent to the Shatila refugee camp, it operates in the context of overlapping municipal, camp-based, and informal governance structures. Limited state investment, contested land use, and high demographic fluidity have constrained opportunities for long-term spatial planning, rendering external interventions sporadic and often donor mediated.

Sabra is home to one of Beirut's largest and most affordable markets, the Sabra Souk (The New Arab, 2019). 'Within the market, electronic devices and CDs are sold next to the vegetable, fish, meat and poultry products. The Suq acts as an edge to a highly politicised landscape, subjected to territorial definitions dictated by influential parties and street-lords' (American University of Beirut, n.d.). In addition to serving as an economic hub, the market embodies the neighbourhood's distinctive social composition.

Much like Sabra's own expansion, the Shatila camp began as a small settlement of around 500 units in 1949 (UNRWA, n.d.) and has grown into a recognised neighbourhood. Commonly referred to as 'Sabra and Shatila', these areas function almost as one, with entry to Shatila primarily through Sabra. It is estimated that around 40,000 residents are housed in Shatila (Mackenzie, 2016). Originally a Palestinian refugee camp, it is now predominantly inhabited by Syrians displaced by the Syrian Civil War. While Shatila is designated as a residential area for those with refugee status, it is important to note that this does not mean Sabra is populated solely by Lebanese nationals; there are also Syrian and Palestinian residents within the wider community.

Sabra's social and physical composition is shaped by colonial histories in the Levant. Formerly under French and British control, the region has experienced insurmountable instability since independence. Borders have been redrawn by Western nations and this has contributed to unrest and conflicts such as the Lebanese Civil War. 'The Lebanese Civil

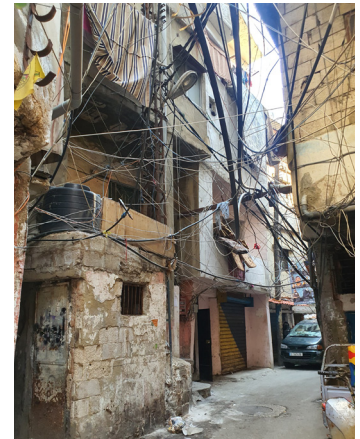
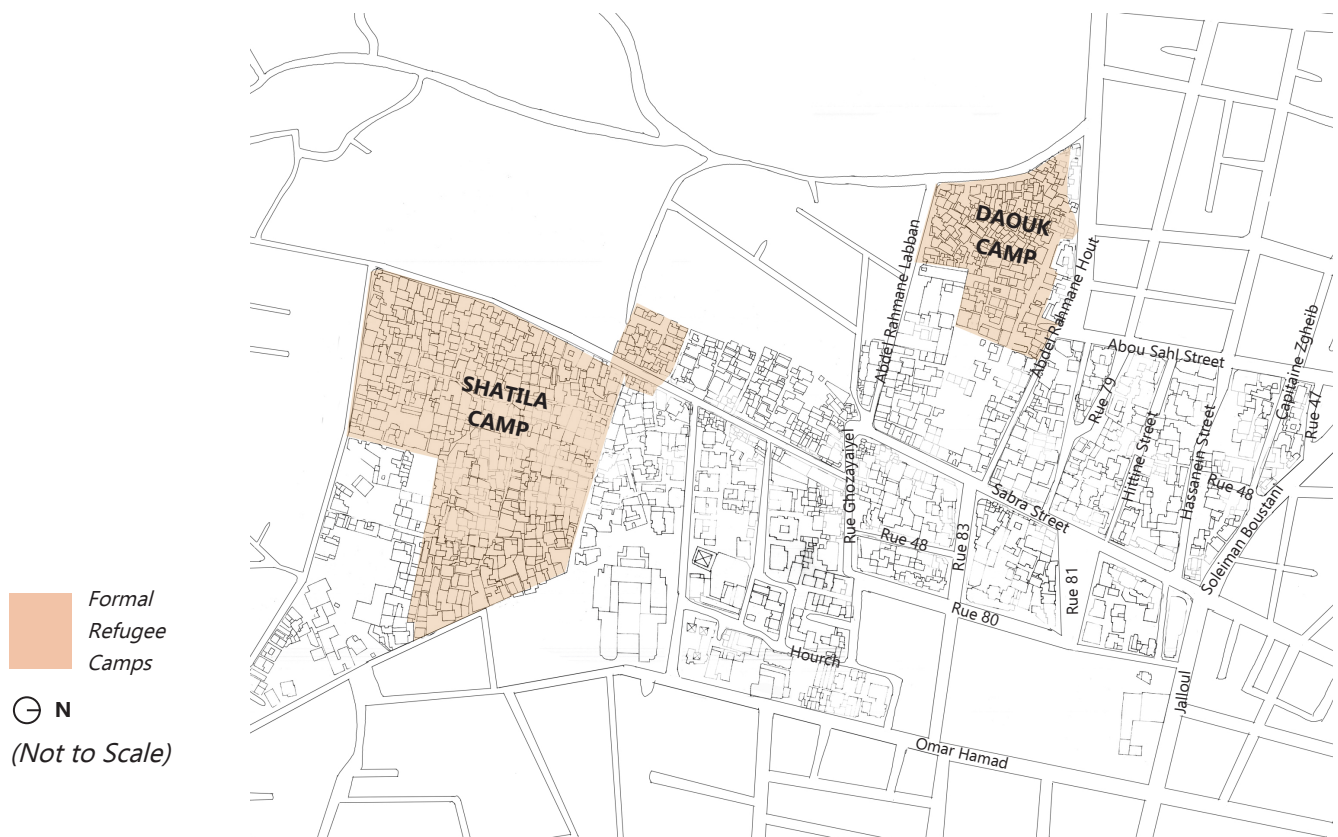


Fig. 3.4.

Photograph from within Shatila Refugee Camp, March 2023.

Fig. 3.5.

Map of research site
Sabra, Beirut.



War is without a doubt the bloodiest and most tragic contemporary consequence of the colonial period. Although it occurred more than 25 years after the decolonisation of Lebanon, the political environment that led to its outbreak [...] was a legacy of the French Mandate' (Ritli, 2011). During the war, foreign forces – including Israel – instigated the Sabra and Shatila massacre of 1982 (Aljazeera, 2022). This atrocity that continues to affect the neighbourhood's social cohesion and urban form. Because of this fraught history, participatory research that aims to uncover the urban aspirations of residents may be seen as decolonial in nature when carried out effectively.



Fig. 3.6.

Photograph of informal
electricity connection,
Sabra, January 2023.

Architecturally, Sabra is characterised by multi-use apartment buildings (shops below, housing above), a few surviving residences from the early 1900s, and numerous commercial shops. 'Building materials in Sabra include natural stone, paint, coatings and bricks with no finish and other materials' (Youssef & Baba, 2017:398). Since the 2019 economic crash, public spaces and infrastructure have deteriorated, and a lack of state-provided electricity has increased people's dependence on private generators (The Century Foundation, 2023). This has resulted in unregulated, hazardous

electrical lines throughout the area.

There are no formal public social spaces in Sabra. For children, though several schools exist, recreational facilities are scarce. Aside from occasional internet cafés and football pitches – often frequented by teenagers – children are mostly left to play in narrow residential streets, often amidst oncoming traffic.

3.4 KARANTINA, BEIRUT

*For this subchapter please refer to **Appendix A - Portfolio Drawings: '3.4 Karantina, Beirut'***

Karantina presents a contrasting yet related condition. Situated along the port and historically shaped by quarantine, militarisation, and displacement, the trajectory of its development reflects both infrastructural neglect and sudden influxes of reconstruction funding following catastrophic events. The neighbourhood thus provides a lens through which to examine how participatory architectural practice operates within a post-traumatic urban environment characterised by layered authority and emergency intervention cycles.

Fig. 3.7.
Map of research site
Karantina, Beirut.

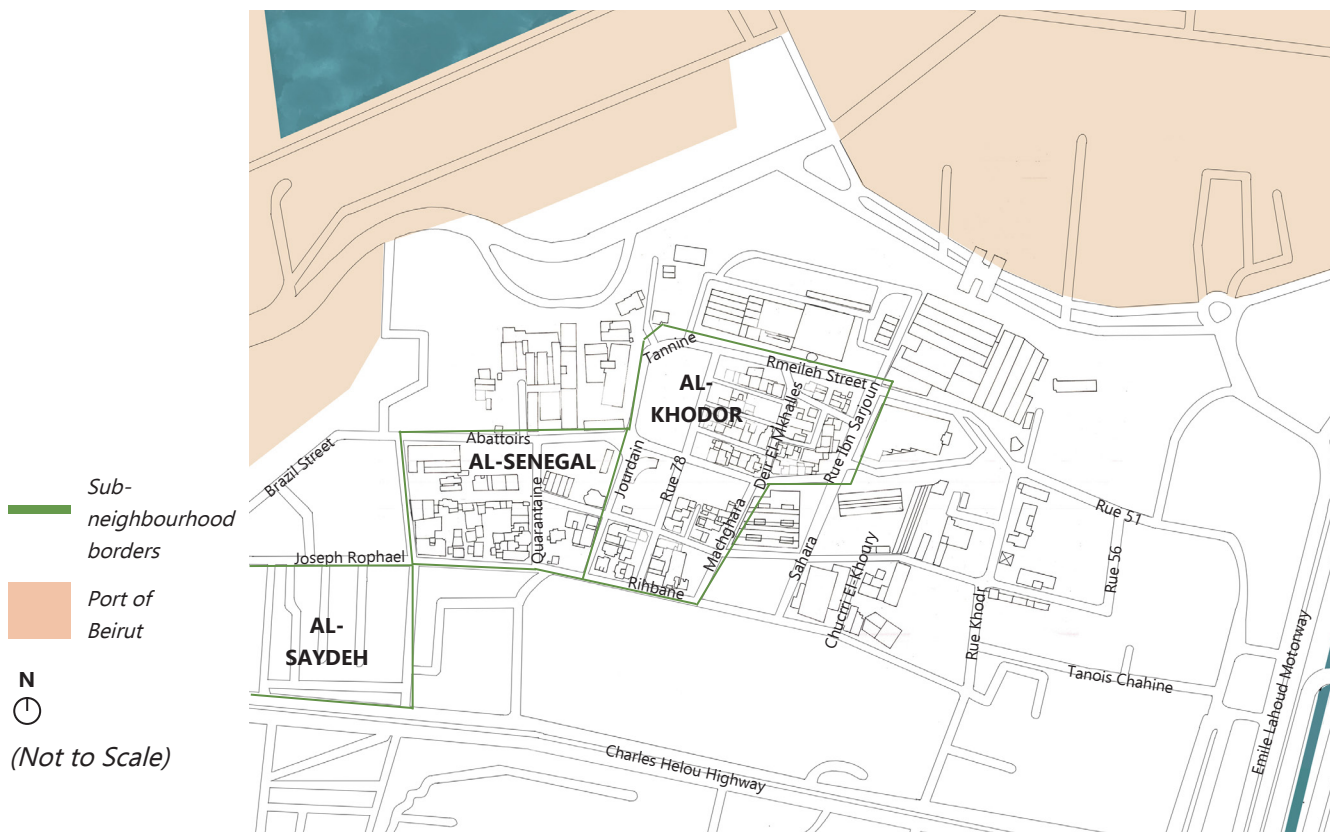




Fig. 3.8.
 Photograph of 'Beirut
 Blast Memorial Wall',
 Karantina, January 2023.

The neighbourhood lies on the coast, just north of the prosperous Achrafieh district. The name 'Karantina' comes from the French '*La Quarantaine*', referencing its history as a quarantine zone for sea travellers during the 1800s to contain diseases like cholera and tuberculosis (Hankir & Chaya, 2020). In addition to its tragic history of massacres and the 2020 Beirut Port Blast, the area has suffered frequent fires and annual flooding due to its proximity to the Beirut River. These events have damaged local infrastructure, which is rarely funded for restoration. Prior to the blast, Karantina received little government development support, as it was not seen as a valuable location for businesses or higher-income residents.

Part of the Port of Beirut, Karantina consists mostly of industrial factories and a small residential area. It includes three sub-neighbourhoods: Al-Khodr, El-Sayde, and Al-Senegal. Residents once had access to the shore: 'The Port of Beirut had not yet expanded to cannibalise the coast off Karantina' (Sewell, 2021). With the port's expansion came militarisation: 'the lands fully transformed to house the army. It is forbidden to build there; you need a permit. They are not allowing anyone to build there' (K.A., 2022). Military patrols are now a common sight across the neighbourhood.

Historically church-owned, Karantina was home to one of the world's earliest modern refugee camps, sheltering people fleeing the Armenian genocide (1915), the Palestinian Nakba (1948), and more recently, the Syrian Civil War (Sewell, 2021). While residents may feel a sense of comfort within the neighbourhood, its relationship to the wider city is not so symbiotic. As one of the city's poorest and most marginalised areas, its residents are often 'stigmatised, silenced, and excluded from participating in the narrative or future of the city' (BUL, 2023). Despite their experiences of displacement, most residents chose to return after the 2020 blast, reinforcing their strong sense of belonging.

The blast was not the first catastrophe Karantina had endured post-independence. Similar to Sabra and Shatila, it was the site of a 1976 massacre which developed from the same tensions stemming from colonial political legacies in the broader region (ANSA, 2020). Although the explosion resurfaced painful memories for older residents, it also attracted global attention, unlocking international development funding that would otherwise have been unattainable. However, many of these projects reflected common failures of Western-led initiatives in foreign localities, which failed to 'encourage exercises in local teaching and learning which increase the ability of poor people to navigate the cultural map in which aspirations are located' (Appadurai, 2004:83). Nonetheless, a few initiatives placed Karantina residents at the core of their research

and design processes, utilising co-productive, bottom-up methodologies and practice. While these will be discussed subsequently in detail, some of these projects have resulted in numerous child-friendly social spaces in the neighbourhood, distinctly contrasting with conditions in Sabra.

3.5 SITUATED PRECEDENT STUDIES

*For this subchapter please refer to **Appendix E – Situated Precedent Studies***

The driving topics for this research project in participatory mapping processes and socially-led architectural initiatives were examined against existing precedents in the neighbourhoods of Sabra and Karantina, Beirut. During this process, it was essential to consider the recent architectural projects that have occurred in these areas. These projects provided a framework for a more thorough investigation of the feasibility of the project's methodologies and, as a researcher, to 'benefit from a comprehensive understanding of formative idea, organisational concepts and parts' (Clark & Pause, 2013:v).

Two situated precedent studies were examined to understand how participatory architectural and urban interventions have been implemented within the specific contexts of Sabra and Karantina which take account of the unique socio-cultural, political, and architectural paradigms that exist within them. These studies informed the methodological positioning of this research by highlighting both the opportunities and limitations of community engagement in neighbourhoods shaped by spatial marginalisation, high population density, and complex governance structures. Within the appendix, these precedents' methodologies and outcomes are discussed in two site-specific chapters:

- 1) Sabra: Public Space Explorations**
- 2) Karantina: A Participatory Neighbourhood**

In Sabra, the precedent analysis focused on research exploring the provision of child-friendly outdoor spaces within dense, low-income urban environments. The study demonstrated the scarcity of safe recreational areas and highlighted how children's use of public space is shaped by gendered social norms and infrastructural limitations. In contrast, Karantina provided examples of built participatory interventions implemented following the 2020 Beirut Port explosion, including community-oriented public space projects developed through collaborative workshops and co-production processes. Together, these cases offer insight into how

participatory approaches are adapted to two neighbourhoods with similar histories of marginalisation but differing levels of recent spatial intervention.

3.6 MAPPING, COLONIALITY AND PARTICIPATORY PRACTICE IN BEIRUT

This thesis situates itself within contemporary Middle Eastern urban discourse that understands Beirut not as a failed planning project, but as a city structurally shaped by violence, colonial legacies, and speculative reconstruction.

In *Remaking Beirut* (2010), Craig Larkin frames Beirut as a city whose urban form cannot be separated from repeated cycles of catastrophe and reconstruction. Rather than a straightforward recovery process, urban reconstruction occurs within ongoing conditions of uncertainty, militarisation, and infrastructural fragility, with the urban landscape reflecting both past violence and anticipating future disruptions.

Building on this perspective, this thesis examines participatory mapping not merely as a community engagement tool but as a form of counter-cartography. In a context where colonial cadastral systems and donor-driven reconstruction have historically structured spatial knowledge, mapping becomes political. Inviting residents – particularly children, who are largely absent from formal planning discourse – to articulate spatial imaginaries challenges dominant cartographic frameworks centred on property, investment, and security.

Urban planning processes in Beirut rarely foreground children as active spatial agents. While international frameworks such as the United Nations Children's Fund's (UNICEF's) *Child-Friendly Cities* initiative advocate for youth participation in decision-making, such practices are currently focused on emergency protection. Children's spatial agency is mediated through family control, gendered norms, informal street cultures, and the availability of public space.

In neighbourhoods such as Sabra and Karantina, children's mobility and play practices often occur in residual or contested spaces shaped by infrastructural neglect and socio-political marginalisation. By centring children within participatory mapping processes, this research extends urban participation beyond adult-dominated governance models and situates childhood as a critical lens for spatial justice.

While participation is not considered to be inherently emancipatory, participatory mapping practices can create small spaces for agency. This research aims to contribute to debates on decolonial architectural practices by critically examining who conducts mapping, whose voices are heard, and which forms of spatial knowledge are made visible. Within this thesis, decolonial practice is understood as an approach that challenges historically imposed systems of spatial knowledge production. The use of participatory mapping becomes a method through which dominant representations of the city can be questioned, disrupted, and reconfigured.

3.7 SUMMARY

When engaging in place-based research, it is essential to consider the geographic, historical, and social contexts of the research site, as these considerations influence the development of the methodological approach. Through employing this process in the context of Beirut, Lebanon and the two sites, research positionality became simpler to clarify. Further, the identification of effective data collection techniques, that have been previously adopted in this unique environment, became foundational when designing the methodological approach for the project. By examining other participatory architectural initiatives in the area, the research was more thoroughly evaluated within the broader ongoing discourse about participatory urbanism in Beirut, Lebanon. This exploration contributed to an understanding of the specific research needs that are still required and pointed to existing gaps that could be addressed.

Beirut, Lebanon, as described, is a complex environment for conducting research. This context resulted in continuous significant adjustments to my research plan. Building on the theoretical foundations outlined in Chapter 2 – ‘Map, Mapping, Map-Maker’, these concepts are examined in relation to the historical and architectural contexts of Sabra and Karantina, Beirut to develop my methodology for data collection. In the following chapter this methodology, which employed an adaptive approach to effectively navigate the challenges faced when working in the local context, will be detailed.

ADAPTIVE METHODOLOGICAL APPROACHES

Variable Place-Based Research Design.

4.1 INTRODUCTION

After reviewing the relevant literature, it was necessary to consider how the emerging themes relate to the overall thesis methodology, particularly in relation to data collection. As discussed in Chapter 3, Beirut, Lebanon, is described as a city of 'shifting identities' (Sawalha, 2010).

This research required the participation of others, whose contributions may have been influenced by my personal identity, whether intended or not, as identity plays a significant role in shaping the city's social culture. In recognising this, I acknowledge my positionality within this study, aligning it with a standpoint epistemic approach. As argued 'far from compromising epistemic integrity, certain kinds of diversity (cultural, racial, gender) may significantly enrich [scientific] inquiry, a matter of urgent practical and political as well as philosophical concern' (Wylie, 2003:26). This is further supported by the principles of a feminist standpoint epistemology, which critiques the concept of objectivity and highlights problems with 'conventional sciences for their arrogance in assuming they could tell one true story about the world' (Harding, 2000:155).

This study employed a qualitative methodology, developing a participatory, map-based approach – the *Transformative Lines* approach – to identify needs that may not be part of existing collective consciousness. This chapter outlines the research methodology, including the design choices, data collection strategies, participant overview, and methodological limitations requiring adaptive approaches. Given the research location of Beirut, Lebanon, recent events, and the presence of large populations of refugees in informal settlements within the chosen neighbourhoods, the research methodology also considered specific ethical implications related to these topics. The originally plan was to collect data across three field research trips: January–March 2023, May–September 2023, and January–

March 2024; however, only two trips were completed, with the final trip cancelled due to the Gaza–Israel war. Originally, the intention had been for the final phase to contribute to the thesis through a micro temporary live-build exhibit.

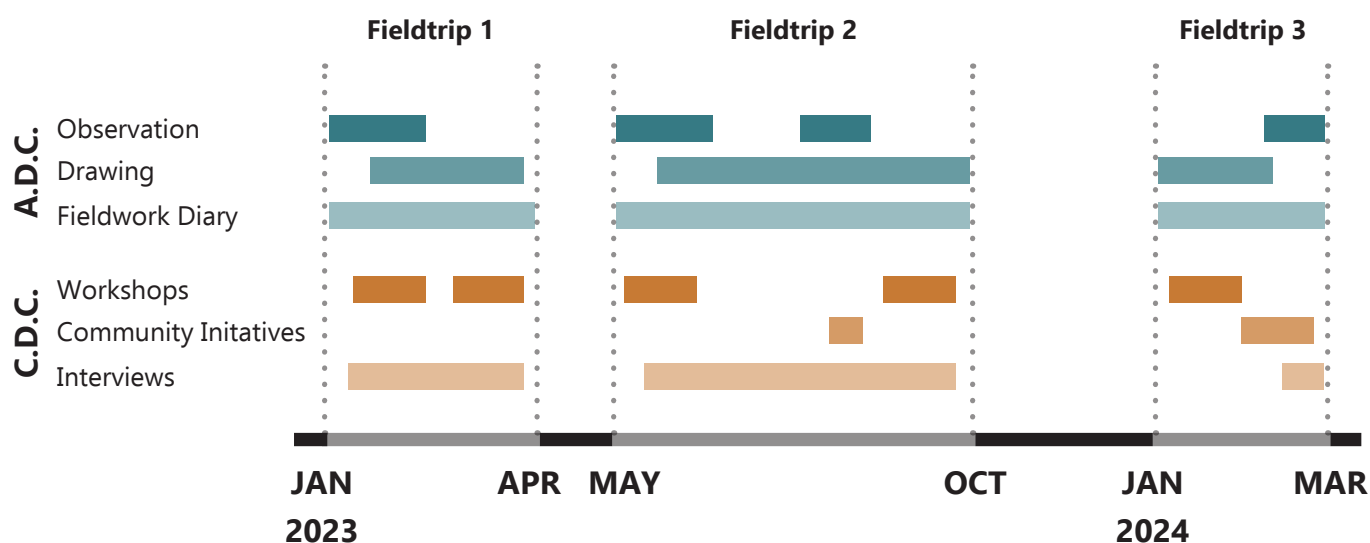


Fig. 4.1.
Original 'Fieldwork
Timeline' developed prior
to commencement.

4.2 RESEARCH DESIGN

Using mapping and participatory practices as primary drivers, this study aimed to identify and address the architectural urban imaginaries of a selected group of residents – specifically children – in Sabra and Karantina, Beirut. The research focused on recording and analysing both physical and cultural data within these sites. Through this process of discovery, the findings were used to inform the development of a toolkit aimed at facilitating similar initiatives in other locations or with diverse participant demographics.

Personal experience with place-based research, during the *Lines through the City* project (ARCSR, 2014–2021) in Freetown, Sierra Leone, served as a foundational framework for the methodological design of the thesis. The project employed qualitative methods, with mapping as the main tool

for data collection and analysis, offering a visual medium for expressing shared insights. According to ARCSR, 'the insights developed through this process allow ARCSR to map and predict both physical and social issues simultaneously at both civic and domestic scales, enabling exchange and interaction at different points' (ARCSR, 2021). While certain data collection methods from that project were transferable – given that both cities are coastal, hilly, and shaped by regional displacement – methodological adjustments were necessary to suit Beirut's unique context. Given that the research was practice-based but also more specifically place-based, the geopolitical, historical and social context of Beirut, Lebanon was thoroughly considered in determining the elements of the research methodology.

4.2.1 METHODOLOGICAL APPROACH

This thesis explores place-based research, grounded in decolonial theory and mindful of the ethical considerations of working with children as primary participants. Creative architectural practices were employed as a framework for collaboration, with mapping and map-making as essential instruments for exploration and articulation of the urban imaginary.

Mapping served multiple roles: as a data collection technique (via annotations over existing maps); as a representational tool for topographical/structural surveys and interviews; and as an analytical method to identify spatial patterns. The choice to use mapping was made with a clear methodological intention, as 'the power relations embedded and (re)produced in the mappings not only require a reflection on one's own positionality but also uncover social power relations inscribed in our environment through collective and critical mapping processes' (Genz, Krone & Marguin, 2024). As the maps produced were primarily interpretive and visual, a quantitative approach was deemed unsuitable. The study explored the inherent qualities of lived experiences and urban imaginaries.

This research adopts a qualitative case study strategy, with data derived from interviews, map-making, diary entries, and workshop outputs. As defined by Robert K. Yin (2017), a case study is appropriate when investigating a contemporary phenomenon within its real-life context, particularly where the boundaries between phenomenon and context are not clear. The investigation of children's urban imaginaries in Beirut cannot be disentangled from the city's political instability, post-conflict reconstruction efforts, displacement histories, and local governance structures. Beirut therefore functions as a single, contextually bound case, with Sabra and Karantina treated as embedded units of analysis. These two

neighbourhoods were purposefully selected as critical cases within Beirut due to their contrasting governance and institutional structures, spatial conditions, demographic compositions, and histories of participatory intervention. This embedded design enables a comparative understanding of how participatory practices operate across differing socio-political and institutional contexts within a shared urban environment, while avoiding claims of statistical generalisation. In doing so, it explores how participatory mapping can effectively articulate alternative potential urban imaginaries and shared aspirations.

This research deals with unique social constructs and the opinions of individuals living in Sabra and Karantina, Beirut. Husam Helmi Alharahsheh and Abraham Pius note that 'the interpretivist paradigm and qualitative methods would enable researchers to gain further depth through seeking experiences and perceptions of a particular social context', whereas 'the positivist paradigm [...] would enable researchers to have more statistical reliance and generalisation leading to development of universal laws and findings' (2020:43). One of the primary aims was to include locals, specifically children, as main participants in co-production. This approach required an attention to difference rather than homogenisation.

To further support a socially transformative aim through dynamically investigating existing social structures and challenges, the thesis drew on critical theory, which, as Jabreel Asghar writes, 'is particularly concerned with the issue of power relations within the society and interaction of race, class, gender, education, economy, religion and other social institutions that contribute to a social system' (2013:3123). Raymond Morrow (1994) also notes that in critical theory, the integration of theory and method is contextually bound and evolving. Given Beirut's volatility, discussed in Chapter 3, critical theory provided a flexible methodological lens.

The role of time was also significant in shaping the methodology. While a longitudinal approach would have enhanced the research, constraints imposed by a four-year research degree and limitations of international travel resulted in a data collection period of approximately one and a half years. During this time, Beirut underwent considerable infrastructural transformations due to war-related destruction, likely influencing the urban imaginary within social consciousness. It is significant to recognise that these changes may have led to a shift in the urban imaginary within the social consciousness during this liminal period.

Research over a longer period of time would have allowed for more detailed mapping of structural and cultural changes in the selected

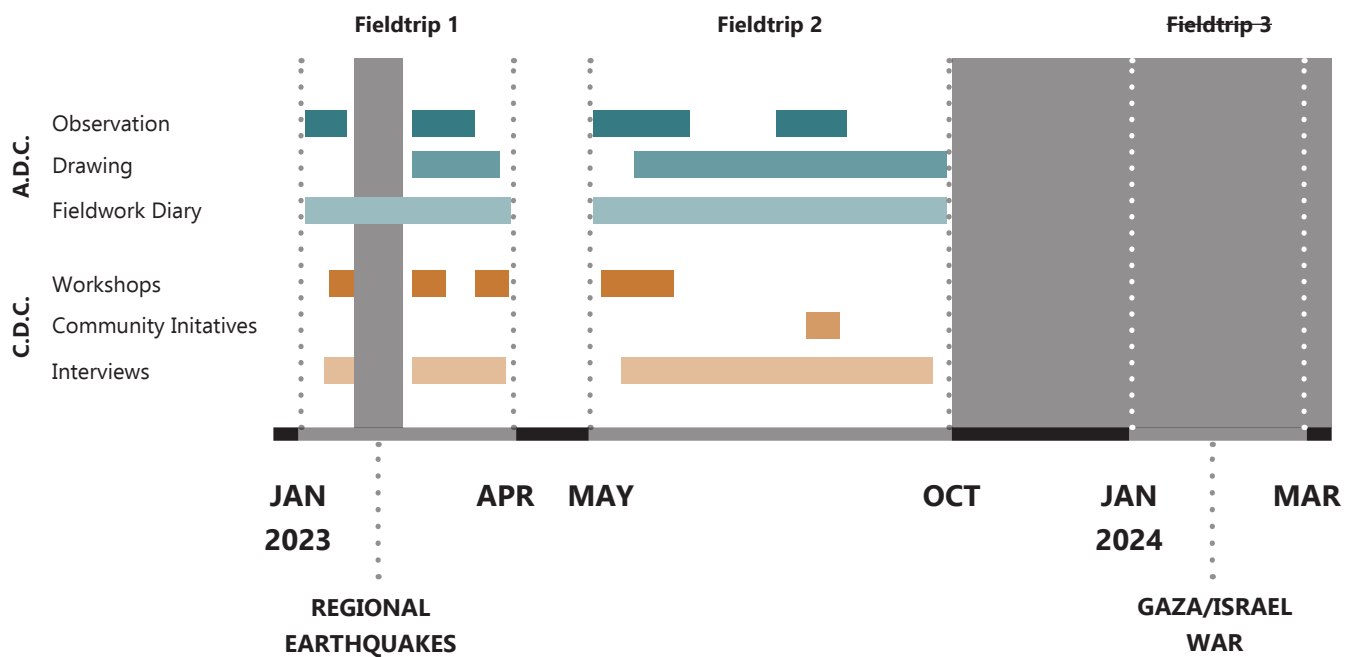


Fig. 4.2.
Research plan against
contextual events
timeline.

neighbourhoods and the wider city, enabling a more deliberate mapping process rather than reliance on pre-existing maps – designed for different purposes – used as supplementary rather than primary data.

4.2.2 PARTNERS AND FACILITATORS

As a person of Lebanese descent, I recognised that my lack of direct lived experience in Lebanon, combined with my Western education may have had an influence on how I conducted the research. Consequently, I undertook critical reflections on the chosen methodologies when planning and participating in the data collection phase, particularly in collaboration with those who were more embedded within the communities studied. To facilitate this, partnerships with experienced facilitators were established at both research sites – Sabra and Karantina.

In Sabra, the Association of Islamic Charitable Projects (AICP) was a primary partner; this is an organisation that has been an important part of the Sabra community for over 30 years and operates both primary and secondary schools in the neighbourhood. In Karantina, Beirut, the facilitators were CatalyticAction, an architectural charity that has been working in Karantina since the Beirut blast and has greatly contributed to

social spaces throughout the neighbourhood, especially those designed for use by children, as detailed in Chapter 3, Subsection 3.5.3 – ‘Karantina: A Participatory Neighbourhood’.

A key aspect of these partnerships was their experience of working with children. AICP’s engagement with local children occurs within a highly formalised and governmentally regulated environment, while CatalyticAction emphasises a collaborative approach that empowers children as equitable contributors to projects with adult facilitators; it offers them agency and ownership, as part of their core ethos is that ‘children’s visions and ideas must drive interventions’ (CatalyticAction, n.d.).

As expected, the roles of the facilitators influenced the research approaches and outcomes. In Karantina, CatalyticAction’s well-established participatory practices in the area resulted in children who were familiar with such research techniques. Conversely, in Sabra, the AICP’s position as an academic institution without formal art or creative programmes was an important factor in designing the workshops. This was a necessary consideration to ensure that children at both sites possessed the skills needed to contribute equally.

Beyond facilitating access, AICP and CatalyticAction formed part of my positionality. Their institutional ethos, safeguarding protocols, and prior relationships influenced the conditions under which knowledge was produced. In Sabra, the formal academic and religious setting shaped workshop structure and behaviour, while in Karantina, CatalyticAction’s participatory culture enabled more informal exchanges. Acknowledging collaborators as epistemic mediators rather than neutral gatekeepers recognises that the data were co-constructed within institutional frameworks, shaping both access and expression.

4.2.3 DUAL DATA COLLECTION STRATEGY

The study adopted a dual strategy for data collection: architectural and collaborative. These categories delineated which thesis objectives would be pursued through architectural mapping and surveying, and which through participatory workshops and interviews. As Burke Johnson and Lisa A. Turner note, ‘it is essential that the researcher carefully collect and corroborate descriptive information’ (2002:300). The diverse descriptive data collection methods used aimed to ‘corroborate’ one another. Drawing on Sandra Harding (1995), the study recognises that no single ‘true story’ exists and instead aims to produce accounts that are less partial than competing interpretations. This notion guided the approach,



Fig. 4.3.
Photograph from ‘CA Volunteer Training for Child Protection’ workshop, February 2023.

acknowledging the partial nature of each data set.

Thus, the Architectural Data Collection (ADC) included surveying, line mapping, photography, and ethnographic observation. Conversely, the Collaborative Data Collection (CDC) involved interviews, participatory workshops, and case studies. This distinction does not suggest that architectural mapping is neutral or non-collaborative. Rather, the dual approach was adopted to facilitate dialogue between formal spatial analysis and participant-generated mappings and narratives, functioning as a heuristic framework for examining different modes of knowledge production rather than implying fixed or discrete categories of practice.

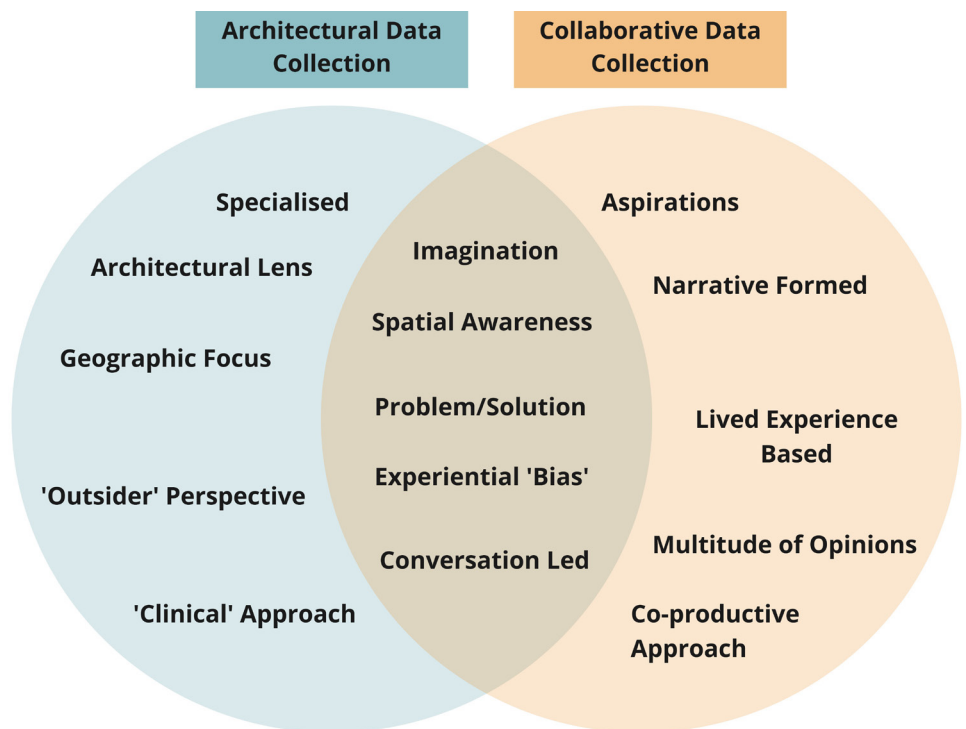


Fig. 4.4.
Dual data collection
strategy venn diagram.

This methodological approach emerged from the recognition that conventional physical mapping practices often claim objectivity, while participatory mapping foregrounds lived experience. By contrasting these methods, the study does not favour one over the other but aims to reveal their respective partialities. The dual strategy therefore operates less as a separation and more as an analytical tension through which Physical and Intangible Lines could be identified in a comparative manner.

Furthermore, to support a decolonial approach, the facilitators were central to structuring the methodology. Their ability to facilitate access within their neighbourhoods significantly shaped both data strategies. Identifying shareholders and stakeholders was an early priority. This began by mapping the facilitators' local networks and identifying key figures.

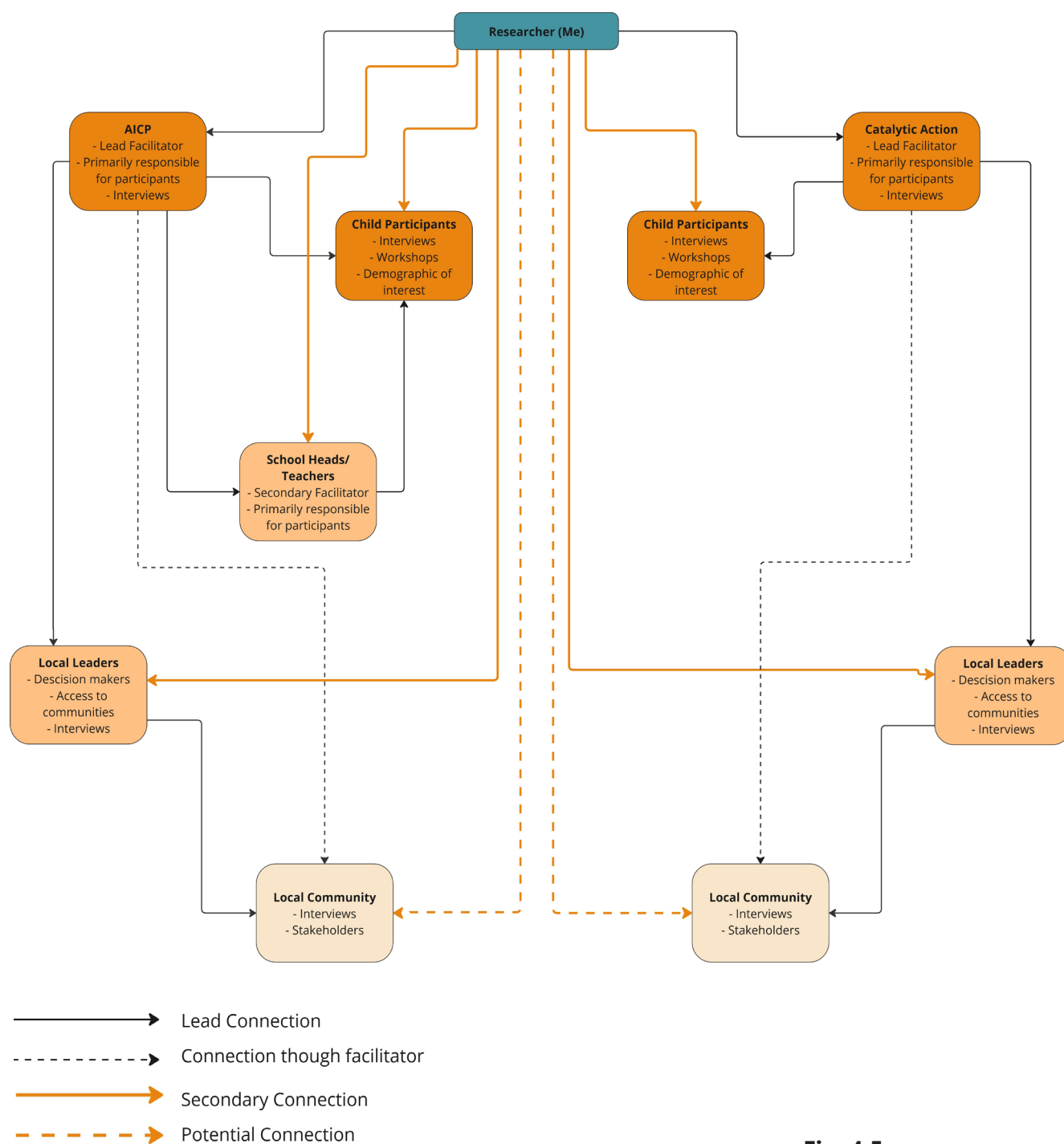


Fig. 4.5.
'Transformative Lines'
 research stakeholders /
 shareholders across sites
 diagram.

Figure 4.5 maps stakeholder relationships across both sites while highlighting the mediated nature of research access. As an external researcher, engagement with participants was predominantly facilitated through organisations and community representatives, shaping the processes of knowledge production and dissemination. These institutional relationships functioned as intermediaries between the researcher and the communities involved. From a decolonial perspective, the diagram therefore represents a network of negotiated access and influence rather than a hierarchy of authority. Facilitators, teachers, and local leaders were central in enabling participation, guiding discussions, and supporting ethical engagement, underscoring the collaborative nature of the research and the researcher's positionality within this network.

This positionality significantly informed methodological decisions throughout the research process, including reliance on facilitators for participant selection, adaptation of workshop formats to align with institutional standards, and the interpretation of findings through culturally informed frameworks. Consequently, the *Transformative Lines* framework recognises that it is not neutral but reflects the researcher's position within and influence by these interconnected networks of access, negotiation, and influence.

Through discussions, the potential for engagement within the respective neighbourhoods was explored, informed by the facilitator's experiences. In Karantina, CatalyticAction's widespread integration within the community and their physical contributions to the neighbourhood pointed to the opportunity for high levels of access within the neighbourhood. In Sabra, access would be more sporadic, depending on the data collection techniques and the availability of key neighbourhood figures. Consequently, it was crucial to approach the research and dual data collection techniques with an understanding of these varying scales of access.

Further, the growing prevalence of participatory architectural research and design highlights its social implications: 'participatory design is now considered as a critical requirement for successful design, on the premise that the resulting product will be more usable by all users' (Goldenberg, 1995). Though it may seem straightforward to theorise about what development approach should be taken across a lines-based mapping approach, the inclusion of urban imaginaries and collective consciousness as drivers for a proposed participatory development toolkit meant that other considerations had to be taken into account. Establishing hypotheses prior to data collection proved challenging, as these were reliant on limited data and risk bias. Therefore, it was prudent to incorporate inductive elements.

4.3 ARCHITECTURAL DATA COLLECTION

The first of the two data collection strategies, ADC, refers to data gathered independently of research stakeholders. The data collected through this strategy were produced by me, as the researcher, primarily through observation, surveying, and analysis from an architectural perspective. As previously mentioned, the techniques employed for data collection include architectural surveying, geographic line mapping, photography, and ethnographic observations. Subsequently, these data were presented in various visual formats, such as drawings, graphs, and, most significantly, maps, to support analysis aligned with the study aims.

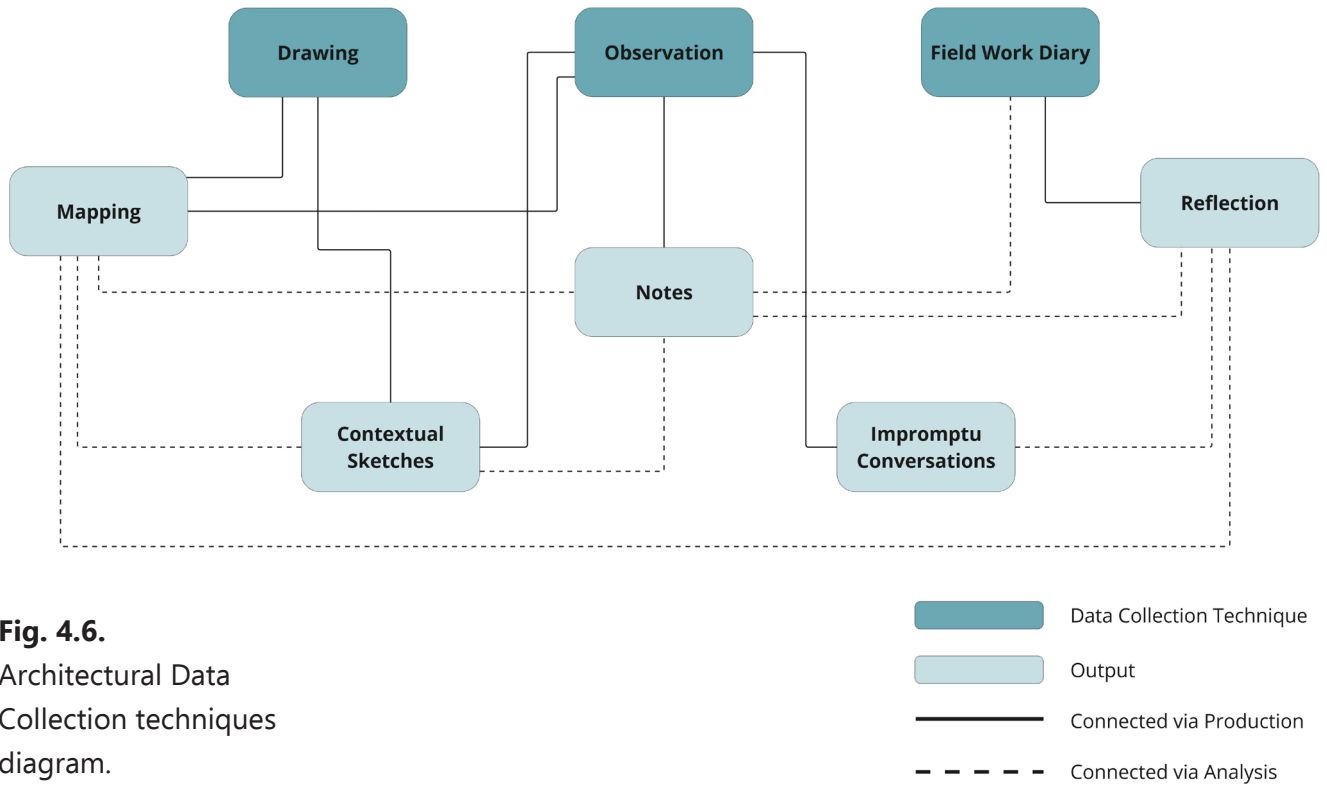
While this category is named for its architectural element, there is no intended hierarchical valuation over what might be categorised as 'non-architectural' data. Rather, the term here is used to refer to data collected by utilising skills and techniques acquired through formal training. As Henry Sanoff notes, 'in technical areas that may involve data collection and analysis, people with such expertise may be instrumental' (2000:18). The ADC aimed to offer an expert, subject-based understanding of the dynamics present at the research sites.

The techniques implemented in the ADC segment of the thesis were straightforward. Drawing on research approaches developed during my work within ARCSR's *Lines Through the City* project, a sampling strategy was adopted with relative ease. Instead of selecting a population demographic, the 'sample' consisted of factors defining the topographical and social structure of neighbourhoods – such as street layouts, the distribution of shops, access points, population density, and social divides – mapped using a consistent visual language across both sites. These addressed Physical Lines as a key data category, to represent local topographic and spatial contexts.

The Physical Lines mapping combines primary and secondary data within the Lines-based analytical framework. Rather than reproducing existing cartographic datasets, the approach reinterprets spatial information through an architectural mode of analysis.

Primary data were generated through on-site architectural surveying in Sabra and Karantina (2023), including observational route mapping, contour assessments, photographic and sketch documentation, and spatial notation of structures and boundaries. Semi-structured interviews with residents and participatory workshops with local children further informed interpretations of spatial use, access, and environmental experience.

Secondary sources were incorporated for which analysis extended beyond observable conditions, including municipal records, development reports, and environmental studies related to the canalisation of the Beirut River. These datasets were critically translated into diagrammatic form, producing analytical overlays to synthesise empirical observation with documented spatial data.



4.3.1 A.D.C. TECHNIQUE A: DRAWING

For different drawing samples please refer to **Appendix A - Portfolio Drawings**

'It would be a mistake to pinpoint one exact task for drawing within the design process. [...] Drawing is increasingly understood in a broad sense as an activity that facilitates communication for creative proposes.' (Makela, Nimkulrat & Heikkinen, 2014:4).

Both physical and digital drawings were used, alongside photography and written excerpts to document the neighbourhood surveys. While drawing served as a data collection method, it also functioned as an analytical tool. Pleuntje Jellema, Margo Annemans, and Ann Heylighen suggest that drawing connects multisensory information, embedding the researcher in the analysis and amplifying insights not verbalised at the time. Drawing

from observation, unlike photography, involves physical engagement and time, offering more than just visual 'registering' (Aarts, Schaefferbeke & Heylighen, 2022). The maps produced for each site represent those sites at specific moments.

Due to the scale and time constraints, existing resources like Ordnance Survey (OS) maps were used such as the Municipal Beirut Basemap (BUL, 2020), in conjunction with the satellite imagery from Google Earth. Thomas P. Vartanian highlights the advantages of utilising secondary data in combination with primary data, noting that 'it can take a considerable amount of time to design, collect then organise the data in a primary data set' and that 'the limitations on primary data sets often make it difficult to apply advanced analysis techniques' (2011:14). Official cadastral maps, zoning plans, and regulatory documents for Beirut do exist through the Directorate General of Urban Planning and related state bodies. However, these datasets are often outdated, fragmented, or not publicly accessible in integrated digital formats. In contrast, BUL provides publicly accessible, research-driven GIS datasets that synthesise land use, building conditions, and socio-spatial data layers. Their analytical approach to spatial data aligns with the interest in this thesis in mapping as a critical and interpretive tool rather than a purely administrative instrument. Using their dataset enabled transparency, replicability, and critical engagement with contemporary urban conditions.

Time was recognised as a significant constraint in the data collection efforts, and it would not have been feasible to conduct entirely new surveys of both neighbourhoods. These maps were used as a base reference, which could be altered to amend any discrepancies identified. Existing maps were reviewed against the actual site conditions and adjusted accordingly, producing custom base maps for data annotation.

As described, the production of data here relied on specialised architectural training and personal experience within the neighbourhoods, and arguably the inherent constraints of time: 'challenges and limitations in conducting multiple data gathering techniques in a case study is an area that deserves more attention and discussion' (Yu, Abrizah & Saat, 2014:13).

Although the research initially anticipated a year of fieldwork across three trips, facilitator availability ultimately shaped the final schedule. Approximately six months were allocated to active collection of data, which informed the rationale for utilising existing maps in the interim periods. The drawings were developed iteratively throughout the fieldwork. Initial base maps were constructed from secondary sources and subsequently

refined through site verification. Decisions regarding what to map were guided by recurring spatial features relevant to the research aims, including circulation routes, social gathering points, perceived boundaries, and infrastructural absences.

The act of drawing necessarily involved selective reduction. Elements were prioritised when they either structured social interaction or appeared repeatedly in interviews and workshops. Drawing functioned both as documentation and as analytical filtering, acknowledging that exclusion is an interpretive act shaped by the research focus.

4.3.2 A.D.C. TECHNIQUE B: OBSERVATION

Observation was a fundamental research method for collecting data within this study and was used in both the ADC and CDC strategies. The observational approach aligns with ethnographic and environmental-behavioural research traditions. As described by John Zeisel (2006), systematic observation in design research involves recording spatial use patterns, behavioural traces, and environmental interactions in a structured manner.

In the ADC, non-participant observations were conducted, focusing on spatial arrangements, movement dynamics, and informal social interactions. These observations were documented through annotated maps and detailed field notes. Unlike participant observation in workshops, this phase emphasised the physical and behavioural dynamics of the neighbourhoods rather than direct engagement with individuals.

Participant-specific observation did occur during the CDC, where I the researcher acted as both the observer and participant in the setting. In contrast, for the ADC, general observation happened without interaction with objects or people. Observations focused on spatial composition and social dynamics, documented through drawing (primarily map-making) and note-taking. To protect anonymity, individuals were categorised demographically without identifiable details (e.g., 'Male, age 30–45, Lebanese').

These observations were crucial for identifying collective aspirations in Sabra and Karantina, reducing reliance on secondary data. Field notes expanded on drawn surveys, capturing insights which were not visually represented. 'Observations are useful to researchers who wish to understand more about the situation under study. The field notes that summarise observations can provide rich detailed descriptions of the

situation observed and help the researcher to later remember specifics about what was observed' (Kawulich, 2012).

Maps and notes were used in tandem during analysis – notes helped in the interpretation of spatial data, while maps gave physical context to written reflections. This layered method strengthened the qualitative depth of the research and allowed for a more nuanced understanding of each site.

4.3.3 A.D.C. TECHNIQUE C: FIELDWORK DIARY

For fieldwork diary samples please refer to **Appendix C - The Workshop Diary pp. 72-77**

While I established guidelines for myself to try to ensure as objective a study as possible, the qualitative nature of the data collected inherently limited the complete elimination of biases or indeed, universally accurate representations. A technique used throughout the fieldwork was to maintain a fieldwork diary, which was very beneficial in addressing my own predispositions. I documented my accomplishments on specific days, noting any unexpected outcomes, and recorded my initial thoughts and interpretations regarding the data collected. 'Utilising diary entries, proves to be a valuable tool for qualitative researchers to comprehend and address the challenges they might encounter' (Mishra & Gupta, 2024:1294). This allowed me to step back from the daily tasks and reflect on the methodologies in a less structured manner and allowed for ease in terms of 'reflecting on experiences and addressing potential emotional, methodological, and ethical challenges that may arise' (Mishra & Gupta, 2024:1295).

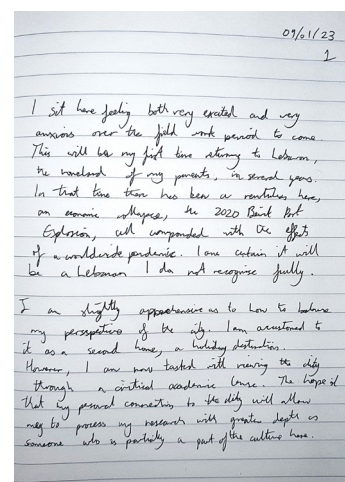


Fig. 4.7.

Scan of sample page from 'Fieldwork Diary'.

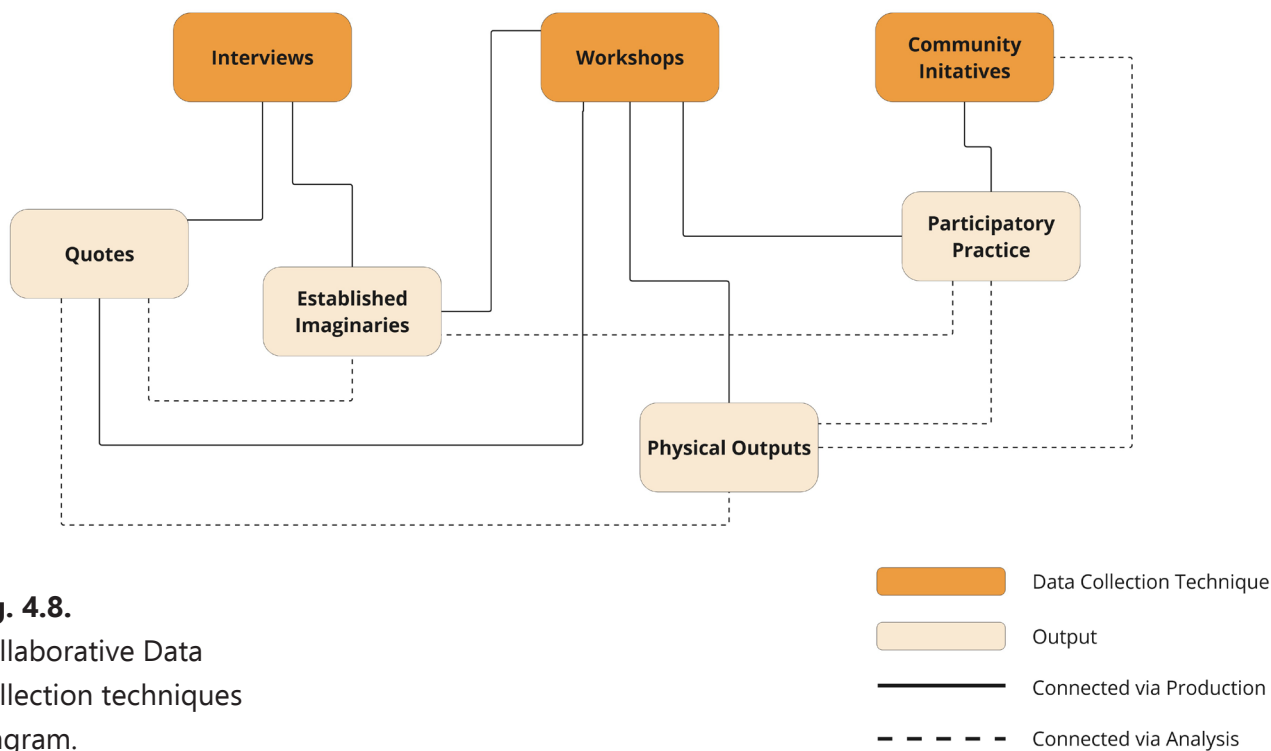
4.4 COLLABORATIVE DATA COLLECTION

For this subchapter please refer to **Appendix C - The Workshop Diary**

While the ADC strategy employed techniques such as mapping, drawings, and observation, the CDC strategy consisted of two main techniques, interviews and workshops. As the name of the category suggests, the workshops here were participatory workshops designed with collaborative intentions and specifically engaged a local demographic: children. The reason these two techniques were chosen is that while interviews would allow the experiences, struggles, and aspirations of the local communities in Sabra and Karantina, Beirut, to be verbally articulated, they would not have provided a visual representation of these insights. The workshops would allow children to engage with these notions through creative

activities – such as drawing and building – producing visual data that would be analysed in a different way to speech.

The workshops, which formed a significant component of the CDC strategy, depended on the type of access available to me through the individual facilitators in the neighbourhoods. As a key aim of the study was to include children as primary participants in the co-production process. A non-probability sampling approach was utilised, focusing on a very specific section of the population. The goals of the facilitators, as well as their own levels of access in their respective neighbourhoods, meant that two vastly different scales and demographic profiles were dealt with at each site. In Karantina, CatalyticAction was able to facilitate the participation of 13 children, aged between 7 and 13, with approximately equal numbers of boys and girls, and those of Lebanese and Syrian nationality. In Sabra, the AICP offered me the opportunity to choose the number of participants, resulting in just under 110 children, aged between 6 and 11, proportionally mixed to match the nationality demographics in the neighbourhood.



While the thesis frequently refers to 'children' collectively, the research groups were not socially or developmentally homogeneous. Participants ranged in age from 6 to 13 years, covering early primary to pre-adolescent stages, which influenced their representational abilities and spatial abstraction. Additionally, participants were from varied nationalities

(Lebanese, Syrian, Palestinian), institutional settings (formal Islamic school versus NGO-led community space), and lived experiences of displacement or post-blast reconstruction.

Although shared spatial concerns justified some aggregated analysis, differences in age, nationality, and institutional structure are further elaborated in the Workshop Diary (Appendix C), where distinctions in drawing style, verbal articulation, and spatial priorities are discussed in greater depth.

In contrast, the interviews were conducted across a wider participant pool, as there were fewer constraints than the facilitation limitations for organising child-focused workshops.

Additionally, I participated in a workshop led by a local initiative in August 2023, organised by one of the facilitators, *CatalyticAction: the CA 2023 Workshop 2 – Design*. While this workshop did not directly contribute to the aims of the thesis, it provided a valuable opportunity for comparative analysis with the project's workshops, as both involved participatory practices in Karantina, Beirut.

4.4.1 C.D.C. TECHNIQUE A: INTERVIEWS

*For interview samples please refer to **Appendix C – The Workshop Diary pp. 54–55 and 102–111***

As suggested by Costa Hofisi, Miriam Hofisi, and Stephen Mago, 'interviewing is one of the most common data collection methods that are employed in qualitative research' (2014:64). It was therefore reasonable that interviews would form an integral part of the data collection process. The initial decision to include interviews derived from the desire to gather written data that could complement the workshop outputs during the analysis phase. Interviews were found to be a valuable method for collecting information from a diverse range of residents, and more importantly, provided opinions expressed in participants' own terms.

When producing the neighbourhood surveys for the ADC, opportunities to conduct semi-structured interviews with local adults regarding their neighbourhoods were conducted. This CDC technique was chosen as potential interviewees could be selected based on demographic criteria: age, gender, and nationality. The sample included approximately 20 adults from each community, encompassing a range of individuals such as business owners, mothers, elderly residents, and community leaders. The reason for this was to assess whether the children's opinions correlated

with the adults in their community. Additionally, an employee from each of the facilitator organisations who was resident in the respective neighbourhood was interviewed. This provided further insight into what the facilitators perceive as important and what their own personal ethos is within the communities they are working with.

In designing the interview questions, the aim was to allow the interviewee a chance to contribute freely and without pressure. Therefore, questions were chosen that could allow for both concise responses or longer, more detailed ones, depending on the interviewee's preference.

When opportunities presented themselves, responses were used as prompts beyond the originally planned 10 questions to seek additional information from the interviewee to pursue a particular topic. This use of a semi-structured interview approach was highly effective, as the strength of semi-structured interviews 'lies in that they are flexible' (Hofisi, Hofisi & Mago, 2014:62). The data obtained from the interviews, upon analysis, contributed to the justification for the Intangible Lines identified as key parameters for the thesis research aim to represent ethnographic and temporal narratives.

- 1) What do you like most about your neighbourhood?
- 2) What do you like least about your neighbourhood?
- 3) Do you feel like your neighbourhood has changed? How and to what extent?
- 4) What is your opinion about the social spaces in your neighbourhood?
- 5) Who occupies these social spaces? Why?
- 6) Do you think children have a space in the neighbourhood? If yes, where? If no, why do you think this is the case?
- 7) Do you feel like you have a sense of ownership within your neighbourhood?
- 8) Would you like to be more involved in the development of your neighbourhood – if not already?
- 9) Have you seen any maps of this neighbourhood? If so, do you think they represent the area accurately?
- 10) What is a structural and/or social element that you believe makes this area unique?
- x) Other discussion had:

Fig. 4.9.
Urban imaginary interview
'10 Q' questionnaire.

4.4.2 C.D.C. TECHNIQUE B: WORKSHOPS

*For the detailed development process please refer to **Appendix C - The Workshop Diary pp. 10-16 and 32-45***

In their article 'Workshops as a Research Methodology', Rikke Ørngreen and Karin Tweddell Levinsen describe workshops as both authentic spaces for participant engagement and controlled settings for generating valid research data (2017:72). The workshops aimed to engage the children's creativity through hands-on production and subsequently fulfil the research goals by addressing how the children perceive their neighbourhoods and through abstract exercises envision ideal community spaces for themselves.

After exploring several formats, a series of four workshops was designed, each building on the previous one. The sessions aimed to introduce basic architectural concepts and encourage critical thinking and design engagement. Children assessed and imagined their urban environments, culminating in a potential live build of their design.

- Workshop 1, Our Town, was a group drawing activity where children were given the opportunity to develop their mapping skills by mapping their towns in a collaborative process.
- Workshop 2, Our Street, was a design activity where children were asked to 'build' different social structures, and through collaborative discussions, co-design a street from the individual structures.
- Workshop 3, Our Space, was a design activity where children were asked to design a social space.
- Workshop 4, Our Build, was a design and build activity based on the previous workshop outputs, to create a community space through the lens of the children's perspectives.

Access, provided through the facilitators, varied across both neighbourhoods, impacting the participatory group sample sizes. In Sabra, Beirut, working with the AICP, workshops were run in four classes (for two separate year groups: Year 2 and Year 5) within a traditional classroom environment. Each class was made up of predominantly Lebanese students, with a small representation of Palestinian and Syrian students, all living in or

near the neighbourhood. Additionally, access to the Shatila refugee camp was arranged, where an agreement was reached to work with at least two classes in the United Nations Relief and Work Agency (UNWAR) school within the camp. This school only serves Palestinian and Syrian refugee communities living within the camp. However, due to earthquakes in the region in February 2023, this was postponed and subsequently cancelled due to the onset of regional conflict. In Karantina, Beirut, CatalyticAction could only host workshops on Saturdays in a small playroom within the community park they had built. It was advised that a group of 15 children would be the largest group they could accommodate. This group was evenly divided between Lebanese nationals and Syrian refugees, all living in the neighbourhood.

An important methodological consideration concerns the comparative sizes of the participatory groups: 103–107 children across four groups in Sabra (ages 7–10) versus 13 children in Karantina (ages 7–12). Although the group sizes differed, they were proportionate when compared to the population compositions of both neighbourhoods. Recent statistics indicate an occupancy rate of approximately 700 households in Karantina (UNDP, 2022), with Beirut's average household size consisting of 5.2 persons per household (UN Habitat, 2021). This suggests a population of around 3,640, roughly a quarter of the population of the Shatila refugee camp alone (estimated at 14,000 people) (Abou Zaki, N/A). This establishes a population ratio of around 1:4 between Karantina and the Shatila camp. While the resident population of Sabra is much higher than this, four distinct participatory groups seemed reasonable for this particular site, in comparison to the single group in Karantina.

Due to space and time constraints in Sabra, workshop tasks were scaled to fit standard school desks and a 50-minute class period (down from the planned two hours). In Karantina, rather than doubling the task time, the workshop was restructured and non-research orientated intro/outro activities were added to fill the full two hours for the children. While local institutional dynamics imposed such structural constraints (time limits, classroom layouts, safeguarding requirements), these were not understood solely as limitations. A decolonial workshop approach within this context required adapting to existing power structures rather than attempting to override them. This involved negotiating authority within formal classroom hierarchies, modifying language to reflect dialect differences, and allowing children's interpretations to redirect activities when necessary. Rather than imposing an externally defined participatory ideal, the workshops evolved within local norms, acknowledging participation as contextually shaped rather than universally defined.

Fig. 4.10.
'Transformative Lines' participatory workshops
 brief chart.

WORKSHOP	W1 - OUR TOWN	W2 - OUR STREET	W3 - OUR SPACE	W4 - OUR BUILD
BRIEF	Group drawing activity where children were given the opportunity to develop their mapping skills by mapping their towns in a collaborative process.	Design activity where children are asked to 'build' different social structures and through collaborative discussions, co-design a street from the individual structures.	Design activity where children were asked to design a social space.	Design and build activity based around either Workshop 1&2, or Workshop 3, to create a community space through the lens of the children.
RELATION TO WIDER THESIS	Narrative based mapping, test for co-production and insight to what 'local demographic' perceive as locations of importance.	Participatory assessment of local needs by chosen demographic, considering which structures and spaces children justify as essential.	To offer children opportunity to create and establish preferences with co-production as the primary method of creation.	Live build aimed at promoting the children's own desires for their neighbourhoods, realised in a physical form.

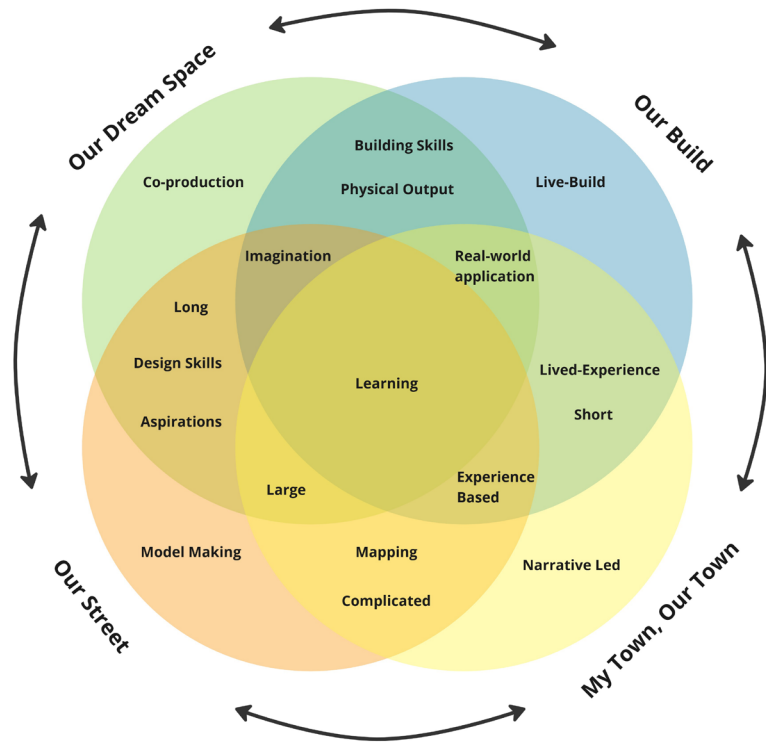


Fig. 4.11.
Participatory workshops
projected impact on
children's development
venn diagram.

During all the workshops, semi-structured interviews were conducted using the CDC Technique A question set and children were asked additional questions related to their outputs and reflections. These insights, together with the children's creative work, informed the Intangible Lines, which were later validated through a more comprehensive interview process.

4.4.3 C.D.C. TECHNIQUE C: COMMUNITY INITIATIVES

*For the CA blog post please refer to **Appendix C - The Workshop Diary pp. 78-81***

A notable experience during the fieldwork occurred after completing the first three workshops across both sites; it involved my participation in a local initiative run by CatalyticAction: the *CA 2023 Workshop 2 – Design*. This week-long workshop focused on gender inequalities and their implications for the built environment. We reflected on the issue and developed possible spatial solutions for public spaces. The agenda included both field and desktop activities. During the field activities, we conducted site visits to various locations in Lebanon: Mar Mikhael in Beirut, El Mina in North Lebanon, and the Bekaa Valley.

My participation in this workshop is not presented as a primary research method. Rather, it functioned as reflexive immersion within an established participatory design context. This experience allowed me to shift from

researcher to participant, offering comparative insight into facilitation techniques, power dynamics, and modes of spatial discussion among older youth. While no direct data from this workshop were incorporated into the thesis findings, the experience informed my interpretation of participatory practice within Karantina and strengthened my contextual understanding of CatalyticAction's ethos.

In the desktop sessions at the Karantina Community Centre – rehabilitated by CatalyticAction after the 2020 Beirut port explosion – we co-designed context-specific interventions. The workshop aimed to advance spatial justice through public space initiatives. Site visits informed our analysis of urban challenges and shaped our inclusive design proposals. By working with residents of different ages, genders, and backgrounds, we grounded our solutions in community participation.

The familiar setting enabled me to leverage my experience and adapt skills developed from working with younger children to engage with older youth. This provided a comparative perspective that reaffirmed the broader societal relevance of the issues explored.

In addition to their participatory workshops, as part of their broader strategy to promote community initiatives, CatalyticAction routinely employ advocacy through publication. One of these methods involves blog posts authored by their team members, local stakeholders, and research partners. As agreed in the facilitation arrangement for the research project, I was also invited to contribute a blog post reflecting on my experience of working with their team and facilitating workshops in Karantina.



Fig. 4.12. Photographs from the 'CA 2023 Workshop 2 – Design' (2023). [Source: CatalyticAction]

4.5 ADAPTIVE METHODOLOGICAL APPROACHES

'The attributes of flexible qualitative research design and contextual case study procedure could be used to construct a robust and holistic investigation amidst the various challenges in the research environment.' (Yu, Abrizah & Saat, 2014:13)

Through the research design process and subsequent data collection, it became increasingly clear that a dynamic interaction between these two phases was essential. Rather than a linear research methodology, it was evident that a more adaptive approach needed to be adopted that could accommodate unforeseen circumstances beyond my control, unique data outputs that would affect the progression of data collection, and reconsideration of the participants' skills after building rapport. For instance, during the first field trip, there were several earthquakes in the region, shutting down the research neighbourhoods. Additionally, in certain workshops, unexpected insights regarding the participants' lived experiences emerged, altering the initial interpretations of sites. Additionally, some workshops were adapted pre-emptively or in real-time due to new unexpected knowledge acquired about the participants.

To maintain consistency within the thesis, it was essential to retain certain aspects of the methodology as fixed. However, choosing wider adaptive methodological approaches enabled a more comprehensive data collection strategy and represented the true experience of site-based architectural practice, where adaptations in the face of unexpected events contribute to successful outcomes. Furthermore, an adaptive approach proved valuable, not only during data collection, but also during the planning and execution of data analysis. Due to the diverse data collection techniques used, several forms of data were available for analysis for this thesis. Each participatory workshop resulted in different forms of physical outputs, while the interviews offered verbal insights. Consequently, both the ADC and CDC, as well as the data analysis, had to assume an adaptive quality to reflect the various outputs.

4.5.1 MATTERS OF CHILD PARTICIPATION

*For further details please refer to **Appendix C - The Workshop Diary pp. 46-53***

While adult perspectives were considered during data collection—particularly in terms of facilitation and barrier negotiation – adult contributions were limited in this thesis to points of comparative analysis against specific data from interviews and workshops with local children

in Sabra and Karantina, Beirut. By prioritising children's experiences, I redefined the parameters of neighbourhood analysis, positioning children as primary contributors in understanding site conditions and collective aspirations.

In conducting research involving children as primary participants, I recognised that a different standard of safety, ethics, and research design was required than for adults. The objective was to ensure that the workshop structure and my interactions enabled open, effective dialogue. Simple language was utilised and the children were listened to actively, even when conversations diverged from the planned topics. As Mark Dudek (2005:1) notes, 'listening to young children [...] holds particular challenges for the architectural community', often due to design constraints. The research indicated that a highly considered but flexible ethical approach helped mitigate the potential limits to quality of output.

In addition to facilitating the workshops, CatalyticAction and AICP played a key role in safeguarding the child participants. Many of the children within the research groups have experienced varying degrees of trauma, whether fleeing their home countries – in the case of many of the older children from Syria – or coping with the aftermath of the Port explosion in the case of Karantina. The facilitators also served as psychological safeguards. Although I received child safeguarding training through CatalyticAction, my lack of experience in psychology meant that ethically I could not determine when additional safeguarding measures might be necessary. While there is growing neurological evidence in favour of using creative arts therapies (Van Westrhenen and Fritz, 2014:527), it is also important to acknowledge that those who work closely with deeply traumatised children recognise that the ability to play can be disrupted if the trauma is severe (Bannister, 2003: 20). The facilitators, having more knowledge of the individual children's backgrounds, were vital in creating a safe space for the children to engage in the set creative endeavours, while being monitored by those more attuned to their individual needs.

The use of creative approaches came not only within the workshops but also from the initial process of obtaining consent/assent. While a traditional information sheet and consent forms were used, in cases of limited literacy, verbal agreement through an oral consent script was employed with the adult interviewees. For the child participants, a leaflet combining the 'Parent/Guardian Information Sheet', 'Child Participant Information Sheet', and a joint 'Parent Assent/Child Consent Form' was provided. These were distributed to the parents through the facilitators and returned to me prior to the commencement of the first workshop.

Initially, these were all produced as simple black and white text sheets with few images. However, upon reviewing the literature on promoting attention in child learning environments, in *A Study on Colours Facilitating Attention*, Ankita Dutta and Juri Baruah conclude that 'while introducing new things to the children for learning, patterns of the colours found in the study may be used to stimulate better attention and memory', and that the 'findings indicate that colour may be critical to learning in children' (2018:213). It became evident that if the aim was to obtain the attention of the children regarding the important elements of the study to acquire informed assent, in a way that was meaningful and designed specifically with their learning needs in mind, it was necessary to design the information sheets and assent forms in a way that would intrigue them and encourage them to interact with the documents. Consequently, the *Transformative Lines: Information and Consent Leaflet* was created; it retained the essential content while transforming the format into a more visually appealing layout. The leaflets were designed with the use of bright colours, and imagery that reflected cityscapes and learning. Stars were also used as a representation of 'achievement' and 'dreams'. The final page of the leaflet was detachable, enabling the parent or guardian to remove it, sign it, and submit it.



Fig. 4.13.
Participatory workshops
'Information and Consent
Leaflet'.

4.5.2 CONSIDERATIONS OF CONTEXT

While I have addressed my ethnicity as Lebanese and acknowledged the position this affords me within the research in the context of Beirut, Lebanon, I must note that my total time spent in the country prior to conducting fieldwork was less than a few months combined. This meant that I was still subject to specific sociocultural differences compared to the local population. These were specific to language, cultural norms, and, in the case of working in the AICP schools, religion.

Having been taught to speak Arabic with a Lebanese dialect in an informal domestic setting, I was aware that my linguistic abilities would be limited, particularly in an academic context. Additionally, while I speak and understand Arabic, I have no literacy skills in the language. While some of the child participants possessed some English language skills, most of their parents did not; therefore, I was required to translate the information, consent, and assent documents. I was fortunate to receive help from the facilitators at the AICP, who were able to accurately translate the forms. During data collection, I relied mostly on my own Arabic skills, and by adopting philosophies from Virginia Rosales in her study on language barriers in ethnography, I maintained ‘honesty’ regarding my linguistic ability with the facilitators and participants as an ‘ethical and time-saving’ strategy (2021:14). Furthermore, when recording individual responses, I used the phonetic writing system of ‘Arabish’, which is a ‘widespread language variant [whereby] Arabic text [is] written in its transliterated form using Latin characters and numbers that represent certain alphabets in Arabic’ (Eton Institute, n.d.). This approach enabled me to transcribe the responses as verbalised. When translating to English, I aimed for the closest grammatically correct conversion.

عربي became 3arabe which became Arabic

Fig. 4.14.
Example of translation from Arabic, to the phonetic Arabish, to English.

During the workshops, there were moments when I was confronted with confusion or tension, which were primarily caused by language barriers. At these times, the decision to be adaptable in the formats and choices was necessary. For example, in one workshop, it became increasingly evident that the children understood my use of the word ‘playground’ to mean ‘football pitch’. While this may be seen as a linguistic error on my part, it was, in fact, specific to one research focus group in Sabra. This specific class had the highest proportion of Syrian children, and

within the Syrian dialect, the term to refer to a playground is '*mal3ab malehe*' (entertainment playground), with the Lebanese form of '*mala3ab*' (playground) in their dialect referring only to a football pitch. Recognising this linguistic discrepancy, I therefore adapted my language during the workshop. Through active discussion, imagery, and rephrasing of terminologies, I was able to adapt the workshop to meet the needs of the specific children I was working with.

Culture and religion were also two critical considerations that I had to address in the fieldwork. Cultural factors had little impact within the participatory workshop; however, when interacting with adult interviewees, I was acutely aware of the specific cultural attitudes regarding respect for age, gender, and position. To uphold ethical standards and ensure equitable treatment of all participants, I opted to address each interviewee with the highest level of respect in accordance with the social norms of the country. Religion was a more significant consideration in the Sabra workshops, particularly given that the AICP is an Islamic charity, and thus the schools are also Islamic religious institutions. Although I identify as a Muslim, I do not ascribe to the religious covering – hijab – of my body. However, acknowledging the guidelines that require all teachers and guests to embody these religious dress codes, as a form of personal adaptation, I made the decision to wear the hijab during the workshops at the AICP school. I believe this decision allowed the children to feel more comfortable in their exchanges with me, as I visually resembled the adult women they often spend time with.

4.5.3 RESEARCH IN CONFLICT ZONES

Research by practice often presents several challenges; some of these may include the disruption of significant portions of planned data collection. Prior to the third fieldwork trip scheduled to commence in January 2024, the Gaza–Israel war began. This expanded to include Lebanon, starting with armed conflict on the border which, after a few months, escalated into a full-scale war. When planning the research and the health and safety considerations, contingencies were not made for the possibility of conducting work in a live conflict region. Consequently, a reflection on the ethical implications of continuing data collection was made, especially with children as primary participants.

'There are field conditions in which ethical field research is not possible. Even with research practices and protocols tailored to specific field conditions, inevitably field researchers rely on their judgment in interpreting those norms.' (Wood, 2006)

Consulting with the facilitators and supervisors, and evaluating the data acquired up to that point, it was concluded that it was no longer feasible to continue fieldwork. As the ability to pursue the final output of the fieldwork – a live build and exhibit in the neighbourhoods – was no longer attainable, the outcomes for the thesis had to be adapted accordingly. The objectives for exploring participatory mapping and discovering a shared urban imaginary of local participants, as well as the development of a mapping toolkit, remained reasonable expectations for the thesis. However, the live build and onsite exhibit will be deferred to a post-doctoral endeavour.

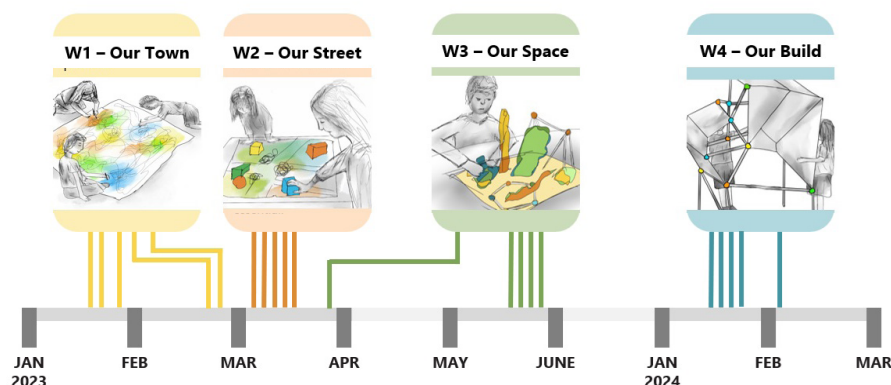


Fig. 4.15. Workshops timeline established in January 2023 prior to regional conflict.

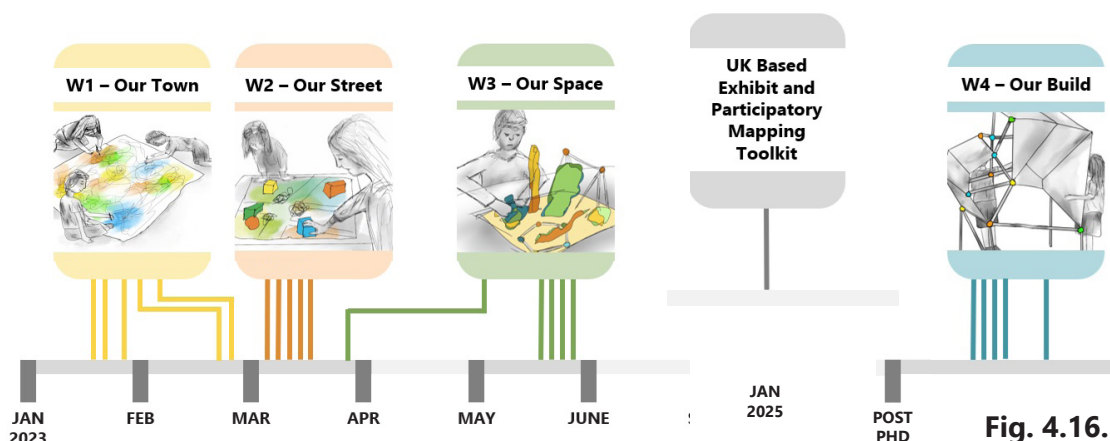


Fig. 4.16. Workshops timeline established as a result of regional conflict.

4.6 SUMMARY

The capacity for adaptability is fundamental to place-based research. A rigid methodology would not have accommodated the changing circumstances encountered during data collection. While this thesis ascribes to a qualitative methodology and employs critical theory as an

analytical framework, this characterisation alone would be insufficient, overlooking contextual complexities and the role of mapping within the dual data collection strategy.

This chapter has outlined the dual data collection strategy, comprising ACD and CDC. ADC enabled a structural understanding of the neighbourhoods, identifying Physical Lines that define Sabra and Karantina. This facilitated connections between participants' experiences and the architectural realities of place. Conversely, CDC was essential for identifying Intangible Lines – features requiring lived experience, access, and participation. Together, these approaches enabled the analysis of shared urban imaginaries and informed a context-adaptive toolkit.

It is important to emphasise that the ADC strategy within a by-practice thesis would have been significantly enhanced if more time had been available for the surveying. This would have provided a more comprehensive opportunity to document the changes to the city build-up, rather than offering a 'snapshot' of a particular moment. In contrast, CDC was less constrained by time, with workshops and interviews largely completed within the initial fieldwork period. However, unforeseen events, including natural disasters and conflict, impacted the research timeline.

All workshops scheduled for February 2023 were postponed due to the region suffering from deadly earthquakes. These disruptions required postponements and the cancellation of the final fieldwork phase. These decisions were guided by ethical and safety considerations, in line with Michael Wessells' *Reflections on Ethical and Practical Challenges of Conducting Research with Children in War Zones*, where he emphasises that 'decisions about where to travel and what work was safe to do [...] decisions about security [are] mostly about practical matters of logistics and personal safety, these decisions also [have] significant ethical implications' (2013:91).

This chapter has briefly addressed the application of this dual data collection strategy in the identification of Physical and Intangible Lines. The results of these two complementary data collection strategies are presented across the following chapters within three analytical categories: Physical Lines (material conditions), Intangible Lines (social and experiential dynamics), and Transformative Lines (spatial intervention potentials). These chapters analyse the identified lines, community perceptions about them, and their potential to shape shared urban imaginaries in Sabra and Karantina.

PHYSICAL LINES

The Structural Composition of a City.

5.1 INTRODUCTION

As part of the adaptive methodological approach, two data collection strategies were established: Architectural Data Collection (ADC) and Collaborative Data Collection (CDC). ADC employed 'drawing' as a key technique – critically identifying and mapping features that physically shape the city. This supported the examination and evaluation of various critical mapping approaches to aid in the development of a toolkit, using 'Lines' as a central analytical framework. The Lines framework developed in this research operates across multiple layers of urban experience. The first of these layers relates to the material structure of the city: the natural and human-made features that shape its spatial composition. These are defined in this thesis as 'Physical Lines'. Identified through the ADC, Physical Lines document the observable topographic and structural conditions that organise urban space. This chapter establishes the spatial foundation of the Lines methodology before moving to the social and experiential dimensions examined in the following chapter.

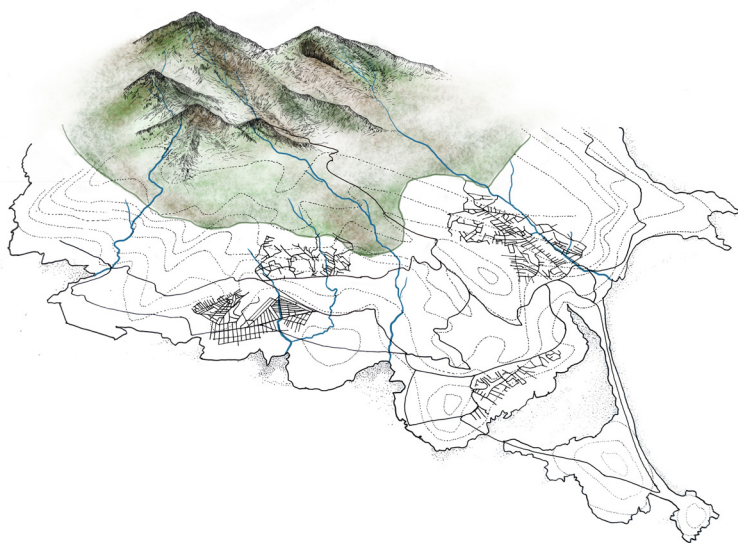


Fig. 5.1.
'Lines through Freetown'
(2021). [Source: ARCSR]

Referring to the *Lines Through the City* research project (2014-2021), Architecture of Rapid Change and Scarce Resources (ARCSR) explored how such physical lines afford shared experiences across settlements in Freetown, Sierra Leone. This previous project specifically examined four key topographical lines found in Freetown, Sierra Leone: Contour, Coast, River, and Forest; building on the prior research conducted by Maurice Mitchell, concerning the use of mapping as a tool in urban practice. Mitchell critically examines the role 'physical topography play[s] in the physical and institutional formation of three case study settlements' (2017:2), leading to an analysis of forest and river lines as essential elements contributing to 'the timely assembly of the cit[ies]' (Mitchell, 2017). A key aspect of these natural features is their influence on settlement conditions: 'Forests have provided shade, building timber, fuel, secrecy, refuge, and a sense of rooted belonging. Escarpments serve as natural barriers, marked by gateways, while rivers supply local drinking water and create reassuring boundaries, occasionally crossed by bridges' (Mitchell, 2017:17). These four natural lines are rooted from the historical formation of human settlements, where different social groups would decide on the locations of a settlement commonly based on one or more key physical factors: water supply, defence/security, and aspect/shelter (Tan et al., 2023). Each of these identified topographical lines influences one or more of these settlement factors. Though urban overpopulation has shifted settlement patterns (Vaca, 2020), these factors still underpin the early foundations of cities.

While the original four natural lines proved effective in Freetown, other contexts require the recognition of additional human-made lines. Contemporary cities are shaped as much by constructed paths, districts, and landmarks as by natural features (Lynch, 1960), necessitating a broader interpretive framework.

'The land is not a given commodity; it results from various processes. On the one hand there is spontaneous transformation [...] On the other hand, there is also human activity [...] turn[ing] land into an unceasingly remodelled space.' (Corboz, 1983:16)

Extending beyond the four specific natural lines, there was a recognition within this project, of different landscape elements which have influenced the topography and settlement patterns of the region. In his book *The Life of Lines*, Tim Ingold asks the question 'What's the difference between the ground outside and the floor of a room?' (2015:41) and subsequently goes on to describe the experience of man in nature, and nature as a response to man. To effectively map the physical characteristics of a land

is to consider both natural features and human-made changes to it: 'A fundamental skill, central to an architect's job description, is the ability to fit design proposals to the dynamic physical and cultural context [...] characterise[d] as a slowly changing topography' (Mitchell & Tang, 2017:3). The integration of human-made lines offers a counter to natural lines, whereby the researchers adopt new lines that better align with the specific context of their work, contributing to the consolidation of 'Physical Lines'.

Before examining the individual Physical Lines identified in Sabra and Karantina, it is important to clarify the data sources informing the maps presented in this chapter. The Physical Lines framework incorporates both primary and secondary data, which are interpreted through an architecturally driven methodology rather than being displayed as traditional cartographic representations:

Primary data were generated through on-site surveying conducted during 2023. This included observational route mapping, sketching, photographic recording, spatial annotation of structures and boundaries, and the analysis of contour conditions. These architectural observations were complemented by semi-structured interviews with residents and participatory workshops with local children, which provided insight into patterns of use, access, and environmental experience. Together, this approach ensured that the mappings reflected the lived realities and material contexts of the two neighbourhoods.

Secondary datasets were consulted where analysis extends beyond directly observable conditions, such as neighbourhood-level income disparities or flood-prone areas. These included municipal records, NGO redevelopment mappings (particularly in post-blast Karantina), environmental assessments, and documented reports relating to the Beirut River canalisation and seasonal flooding. Such information was critically interpreted and spatially translated into diagrammatic overlays within the Lines framework.

The following maps should be understood as analytical blending: consolidations of empirical fieldwork and documented spatial data, produced to illustrate relationships between natural and human-made lines rather than to serve as technical surveys. Where available, specific datasets were sourced from identifiable organisations, including mapping outputs from the Beirut Urban Lab (BUL), post-blast reconstruction documentation produced by NGOs such as CatalyticAction, and published environmental and infrastructure assessments relating to the Beirut River.

5.2 NATURAL PHYSICAL LINES

Due to its location at the intersection between Europe, Asia and Africa, Lebanon is home to some of the oldest continuously inhabited cities in the world (Britanica, n.d.). The topographical features of the country have significantly impacted its development. When regarding the prior defined natural lines, Beirut, the current capital, is characterised by two of these: Coast and Contour. Beirut is distinguished by very 'hilly' terrain with a highly diverse Coast Line made up of both sandy and rocky beaches, and additionally also cliffs. Historically, the landscape was rich with pine and cedar forest. Due to hundreds of years of development and deforestation, the Forest Line which used to occupy a large portion of the city's area does not exist anymore. Furthermore, the sole river of the city, the Beirut River has been redeveloped as a canal and is currently facing considerable pollution challenges. In part, these issues underscore why the natural lines of the city must be constantly recorded; they are at risk of disappearing.

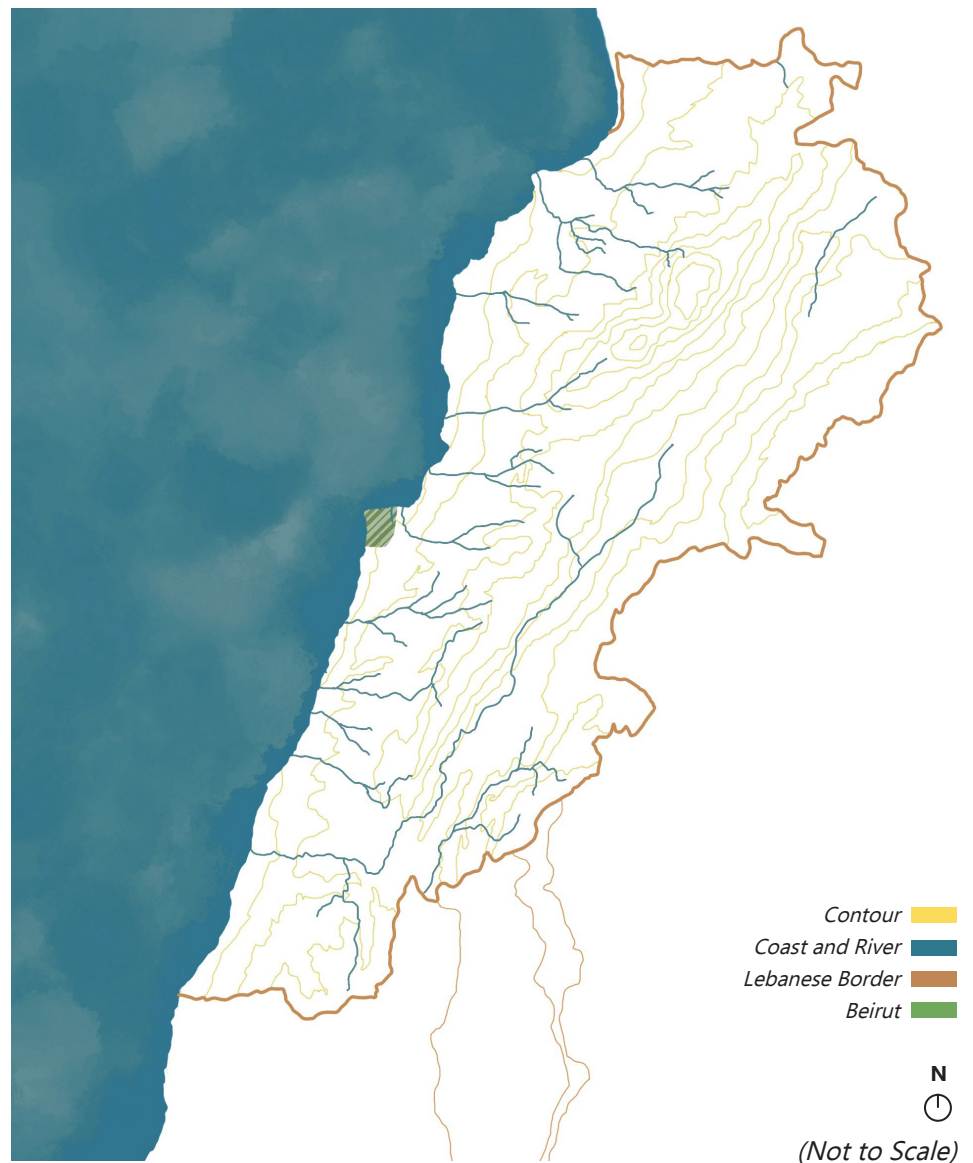


Fig. 5.2.
Natural physical lines map
of Lebanon, 2024.

Karantina is a coastal city neighbourhood, situated along the Beirut River. Sabra, juxtaposed to this, is an inner-city neighbourhood characterised by its steeper topography. Despite their distinct geographical features, in addition to their common loss of Forest Lines, it was important to explore how the presence or lack of any specific line has affected each neighbourhood. Initial site recordings documented the current state of these natural lines in Karantina and Sabra, allowing comparison with earlier records. The objective was, through the assessment of these natural lines, to establish an understanding of how nature has impacted the development of these two neighbourhoods historically. Additionally, one aim was to identify which natural lines may still be impactful to future development in Karantina and Sabra, Beirut, and to compare their impact to that of the human-made lines.

5.2.1 CONTOURS

For this subchapter please refer to **Appendix A - Portfolio Drawings: '5.2.1 Contours'**

Lebanon is largely mountainous, with much of its terrain made up of steep slopes. While Beirut has no mountains, its topography is far from flat. Like its neighbouring capital, Istanbul, Beirut is recognised as a hilly city. Located on a hilly peninsula, the city includes both the hills of Al-Musayib and Al-Ashrafieh and the areas between them.

Compared to the rest of the country, Beirut's relatively flatter terrain has allowed for rapid post-war development. It is noted that Beirut successively

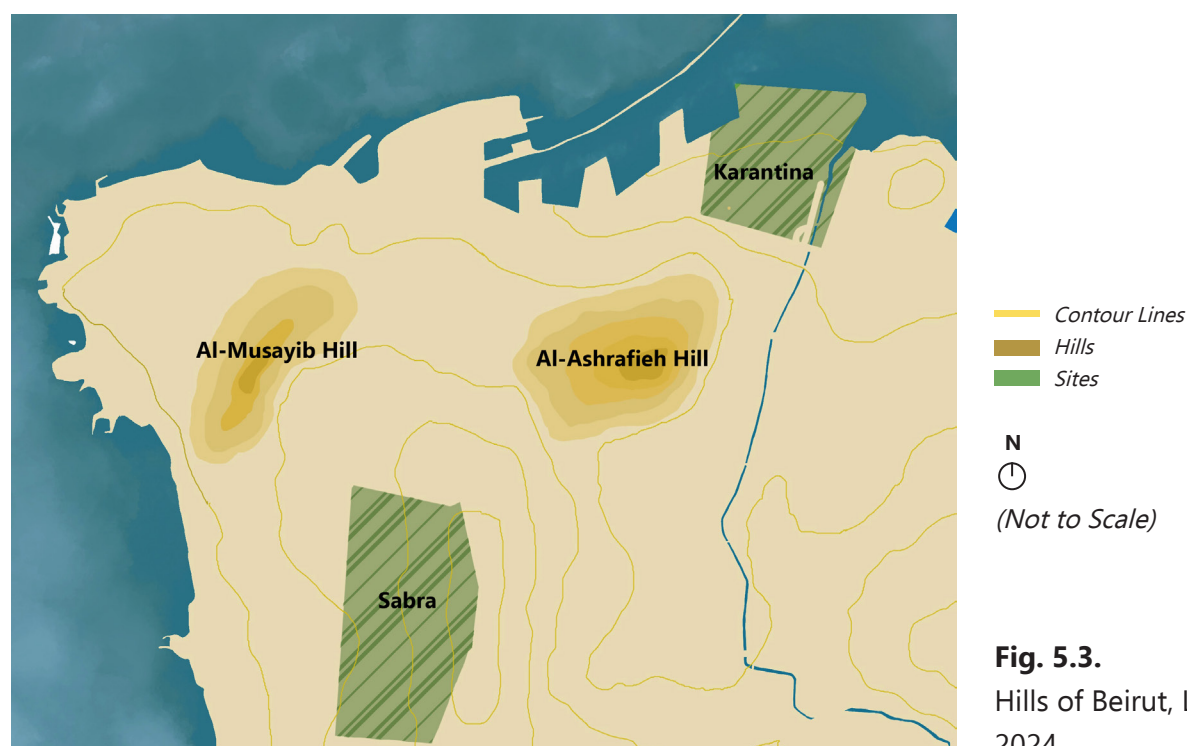


Fig. 5.3.
Hills of Beirut, Lebanon,
2024.

has been seen as the icon of the war-destroyed city [...] and then as the symbol of a city's rebirth' (Nasr and Verdeil, 2008:1115). However, limited planning regulations and uneven terrain have constrained new architectural typologies in lower-economic neighbourhoods, leading developers to rely on established and proven design models. Although over two-thirds of Beirut's land has been developed (Marot, 2019), the hilly topography alongside limited funding have hindered the creation and upkeep of public infrastructure. Many areas, especially the neighbourhoods situated on or beside the two primary hills, are increasingly unfit for pedestrians.

Sabra lies south of Al-Musayib hill and, while less steep than other nearby neighbourhoods, it still encompasses a notable elevation change – about 60m height change in a distance of over 1.2km – qualifying Sabra as a hilly terrain (Fleming, 2021). Sloped and poorly maintained pedestrian routes challenge residents: 'It is a long hard walk, and I cannot walk the heights easily' (Woman, 73, Sabra). As flat areas are scarce, they are perpetually occupied; children can be found playing football on the flat public car routes, while adult men occupy most of the flat public roadways as informal seating spaces.

In contrast, the residential parts of Karantina are quite flat, with the elevation only altering by about 10m. This has resulted in more opportunities for adequate pedestrian routes and safer public spaces. As one of the flattest neighbourhoods in the city, an architecturally led assumption would be that there would be large amounts of development in the neighbourhood. However, as a largely commercial and semi-industrial area adjacent to the port of Beirut, in addition to its history of massacres which led to the expulsion of large populations (Jerusalem Post, 2022), Karantina has evaded the widespread unfettered development that has affected most of the city, despite its uniquely advantageous flatter topography.

Public spaces in both neighbourhoods tend to be on flatter ground. In Sabra, this is particularly pertinent due to its terrain. From a comparative analysis of Hasanein Steet and Hittine Street – two parallel streets in Sabra – we can correlate public social occupation, particularly by children, as relative to flatter ground. Children can be seen using the flatter ground of Hasanein Street more frequently than the sloped areas of Hittine Street. As described, these children often use public spaces to play football; at the same time, proximity to schools or homes might be considered a factor, as both streets have schools located on them and both are UNWRA schools serving children who live in the Shatila Refugee Camp. Often, the children from both schools can be found playing on Hasanein Street. Additionally, the location where they play in Hasanein Steet is heavily congested with

parked vehicles, unlike Hittine Street. Usage suggests that this factor, along with associated safety concerns, are seen as a lesser hindrance than sloped ground.

5.2.2 COAST

For this subchapter please refer to **Appendix A - Portfolio Drawings: '5.2.2/3 Coast & River'**

There are six major coastal cities in Lebanon, with its capital, Beirut, being one of them. The Coast Line of Beirut constitutes over half of the perimeter of the city. This large span of coast established Beirut as one of the most important trading ports in the Mediterranean. Over time, this coastal area has evolved into a popular tourist destination, well-known for its beautiful views and beaches. Consequently, its coastal neighbourhoods have become increasingly desirable for high-income households and upscale

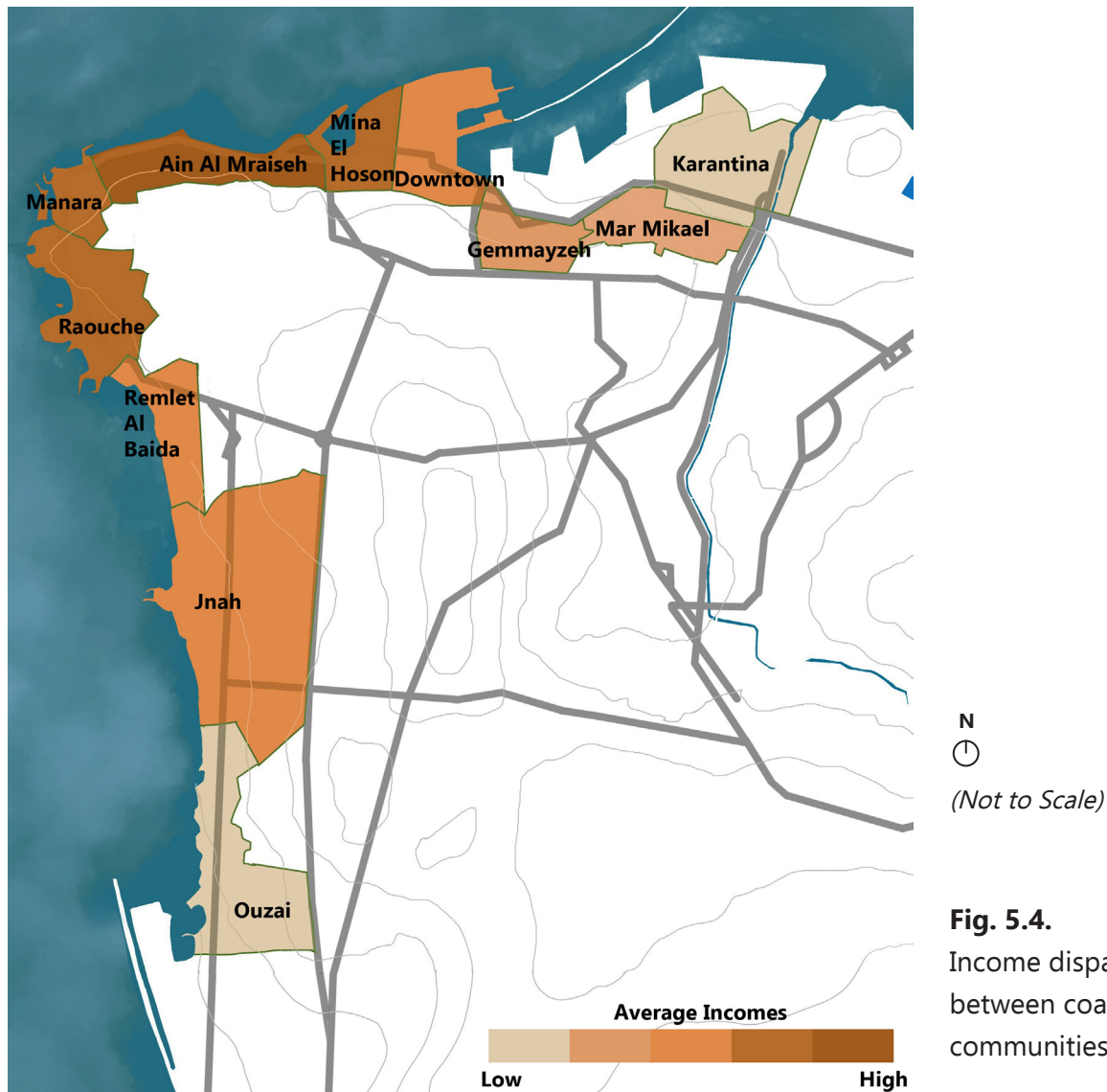


Fig. 5.4.
Income disparities
between coastal
communities map, 2024.

businesses, leading to the gentrification of these areas (Cambanis, 2014). This natural Coast Line is a notable line through the city – a natural line in the city’s geography – and represents an interesting point of comparison between my two sites, as only one of them is a coastal neighbourhood: Karantina.

Sabra is an entirely inland neighbourhood within Beirut, with no natural waterways or coast. Interestingly, this appears to have had little impact on the rising development and people’s desire to live in this area. Most of the residents expressed similar views about living near a coast, such as, ‘I don’t know, I’ve never thought of wanting to live near the coast. I think they are usually expensive and if it [Sabra] were that [a coastal town] then I would not be able to afford it’ (Man, 56, Sabra). Financial considerations proved an important factor when evaluating coast living advantages/disadvantages. The general perception of most residents spoken to was that coastal neighbourhoods, for example the Manara, Rouche and Ramlet Al Baida, tended to be expensive to rent/buy in and therefore not feasible.

When evaluating the neighbourhoods through this financial lens, Karantina is a noteworthy case. Karantina is one of the only two low-income coastal neighbourhood in the city, alongside the Ouzai. Notably, both are situated at opposite ends of Beirut’s coastal edge. The key distinction between the two is that the Coast Line of Karantina is government controlled, owned by the Beirut Port Authority, and thus inaccessible to the locals of the area. It is argued by some locals that because of this the ‘true’ location of the neighbourhood is adjacent to the coast, rather than directly on it. ‘It is a tasteless [without use] coast, we cannot go there, it’s as if it didn’t exist. We live our lives without it’ (Man, 62, Karantina). Limitations on access to the coast occurred in the 1980s as part of a redevelopment initiative following the civil war. This raised several concerns among residents, including issues related to ‘lack of sustainability, inequality with the rest of the city, high property prices, lack of public spaces and costly services’ (Fregonere, 2020). The increasing inaccessibility of Lebanon’s coastline – over 80% (Raydan, 2024) – due to privatisation and government land transfers has created challenges for urban equity, limiting coastal access to those with greater economic means.

Despite having a Coast Line, the lived experiences of Karantina’s residents are comparable to those of Sabra’s residents – it is as if no coast exists. This natural line has no effect on their day-to-day lives, nor does the variety of reasons for its absence affect the development of either neighbourhood. This presents an interesting point of contention between the identity of the city as a whole and the individual neighbourhoods that comprise it: the

coast holds little significance to most of the neighbourhoods within this 'coastal' city. Based on my architectural observations and the responses from residents, this suggests a divergence between the city's physical identity and its anthropological experience.

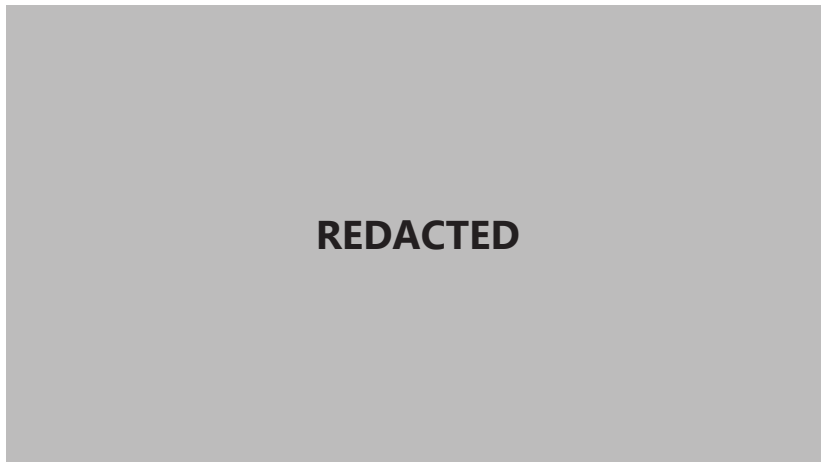


Fig. 5.5.
Armenian Refugee
Camp Karantina, Beirut
(between ca. 1920 and ca.
1925). [Source: George
Grantham Bain Collection]

The income disparity map given in Fig. 5.3 was created by consolidating various secondary socio-economic datasets, including municipal records, published development reports, and NGO assessments concerning property values and average household incomes across Beirut's coastal districts. These datasets were spatially analysed to produce a comparative diagram that highlights correlations between proximity to the coastline and economic stratification. While detailed household-level income data are limited owing to Lebanon's recent economic instability, the map represents aggregated district-level indicators rather than primary household survey data conducted as part of this research. These datasets were primarily drawn from compiled urban studies and spatial analyses produced by local research institutions and NGOs, including BUL, and were selected based on their relevance to coastal property valuation and socio-economic distribution.

5.2.3 RIVER

*For this subchapter please refer to **Appendix A - Portfolio Drawings: '5.2.2/3 Coast & River'***

There are two natural lines that used to run more prominently through the city of Beirut; a River Line and a Forest Line. However, following the country's independence in 1943 (University of Central Arkansas, n.d.) and the official designation of Beirut as its capital city, there was a period of prosperity and vast development. Large stretches of land were used for

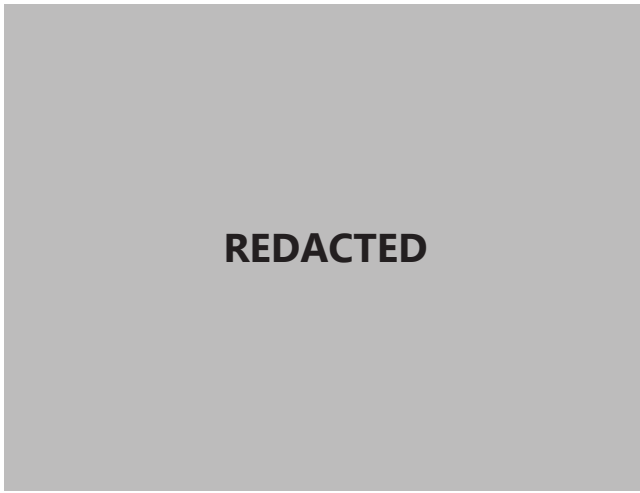


Fig. 5.6.

Photograph of Nahr Beirut before (1924) [Source: Unknown]

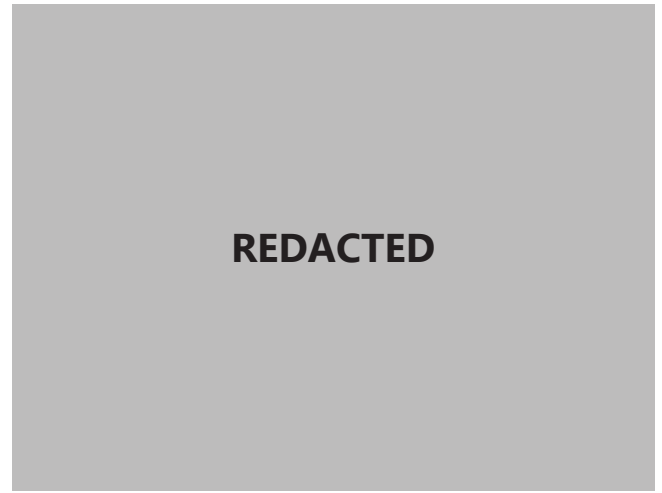


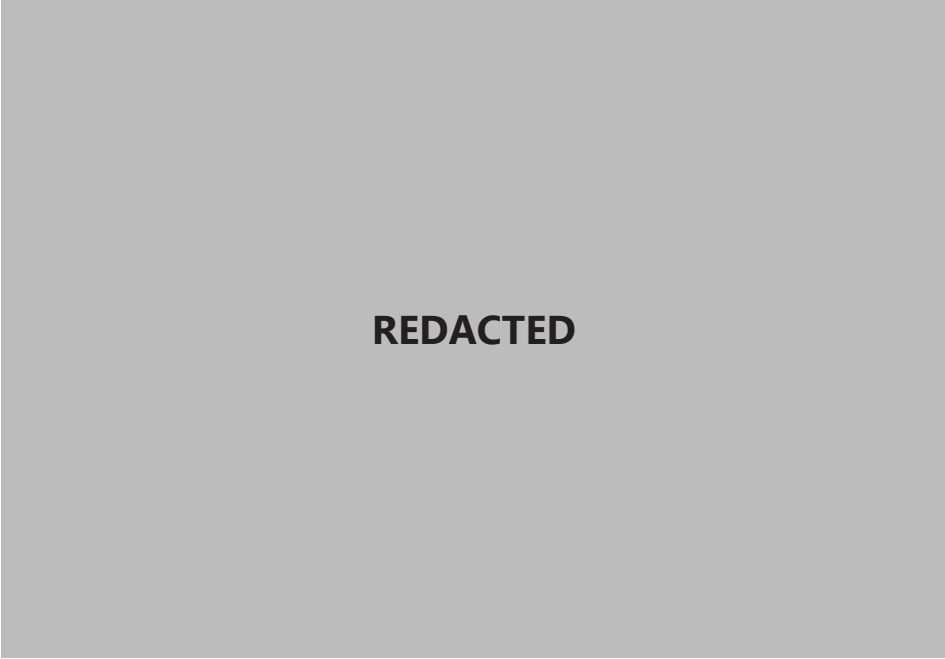
Fig. 5.7.

Photograph of Nahr Beirut after (2016) [Source: Quatchenerlo].

the construction of housing and industry. These changes included the alteration of the Beirut River, a riparian river, to a concrete canal in 1968 (Frem, 2009) and the removal of most of its surrounding vegetative land.

This River Line is framed as existing in the past tense. Even though it remains in some form today, its characteristics have been significantly altered. The canalisation of the river has reduced its accessibility and negatively impacted the lives of residents. Additionally, the change from natural riverbed to canal has compromised the integrity of the river, increasing the risk of flooding, and directly impacting the neighbouring areas and residents. The flood risk zones depicted in this mapping have been identified based on municipal infrastructure reports, environmental assessments, and documented flood events reported in local media and NGO publications. These sources were integrated with the Physical Lines framework to pinpoint recurring access issues and areas of water accumulation. These secondary sources were supplemented by on-site observations conducted during fieldwork and corroborated through resident interviews describing seasonal flooding patterns. Key sources included municipal infrastructure documentation, environmental risk assessments, and published reports on the Beirut River canalisation, which were triangulated to identify consistent flood-prone zones.

Over the years, various initiatives have been undertaken to mitigate these issues, including the addition of a flood control system and banning the dumping of construction waste (Azzi, n.d.). However, an analysis of flood lines (especially pertaining to Karantina) indicates that these measures have had little impact on reducing the flood risks associated with the



REDACTED

Fig. 5.8.

Photograph of Beirut Hippodrome and Horsh Beirut (1960's) [Source: Daher, G]

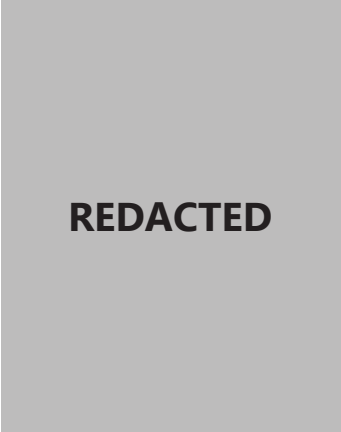
canal. In the cross-mapping of the Coast and River Lines in relation to flooding, we can identify the impact on movement in and out of Karantina. Here, the consolidated flood mapping is utilised not as a predictive model; rather, it serves as an interpretive overlay derived from documented flood-prone areas and observed topographic conditions. From this analysis, it is apparent that flooding inundates several key access routes in the neighbourhood. While this is an issue only a few times a year when it rains, this still considerably impacts the residents.

Additionally, during the summer months, it is often the case that the canal dries up entirely. While the structural walls of the river remain, the absence of water raises questions about the definition of a 'waterway'. 'This? This you call a river? Don't make me laugh. This is an ugly crack in the ground. Where is the water? River. River you say?' (Woman, 47, Karantina). In a study published in *PLOS One* investigating the impacts of 'blue' (bodies of water) and 'green' (vegetative) spaces on the betterment of mental health, it was reported that there are 'significant positive associations between visits to canals and rivers and mental wellbeing' and people who visited 'green' spaces reported 'significantly higher levels of wellbeing' (Bergou et al., 2022). The proximity of the Beirut River to the neighbourhood of Karantina, represents a valuable opportunity for socially driven development aimed at improving the mental wellbeing of residents who have recently experienced trauma. The transformation of the River Line, therefore, carries structural, environmental, and social consequences.

5.2.4 GREEN (FOREST)

For this subchapter please refer to **Appendix A - Portfolio Drawings: '5.2.4 Green (Forest)'**

Despite instances of deforestation, Lebanon has preserved most of its natural Forest Line. However, this has not been the case within the capital city: most of its forestlands have been completely erased and replaced by concrete structures. Its historic forest, the Horsh Beirut (the Beirut Pine Forest) has decreased from a 1.25km² of pine forest in the early 1900s, to just a 0.3km² park in the present day (Stephan, 2019). This deforestation, which reduced the forestry by almost 80%, was predominantly driven by the need for new roads and buildings in the city, as a culmination of the partial reconstruction post-civil war in 1996 (Stephan, 2019); the forested area was transformed into a city park near the neighbourhood of Sabra.



REDACTED

While the River Line can be perceived as a temporal line, its scale through the city remains unchanged; this cannot be said for the Forest Line of Horsh Beirut. It has significantly diminished in scale, with its form and function now entirely altered. It cannot be appropriately referred in the present day as part of the 'Forest' Line, unless the definition is broadened to include vegetive green spaces. This idea was integrated into the mapping framework, however, renaming the line as a 'Green Line' to be more inclusive of the different forms of green spaces. The term 'Green Line' alludes to and reimagines the historically significant demarcation known as the Green Line, which separated West and East Beirut during the civil war and was named for the revegetation that occurred along this boundary. Rather than referencing the period of conflict, the term 'Green Line' here is used to emphasises the increase in green space that can occur when development is limited: 'ironically, it was during the war [...] that the city enjoyed the highest percentage of green space per capita in its modern history, reaching up to 12% of the city's area in 1992; by 2010, that number had shrunk to 1.8%' (Sinno, 2020:196).



REDACTED

In expanding the concept of a Forest Line to a Green Line, the mapping revealed green spaces in Beirut, Lebanon; it defined those which are publicly accessible and which are not. When comparing the current composition of this Green Line throughout the city it offers a bleak picture of the environmental (lack of) considerations in the development of the city, as well as establishing the lack of access to green spaces for the residents of the city.

Fig. 5.9.

Photographs of Beirut's historic '*Green line*' before (1983) [Source: Daher, G] and after (2022) [Source: Unknown]

5.2.5 NATURAL PHYSICAL LINE INTERACTIONS

*For this subchapter please refer to **Appendix A - Portfolio Drawings: '5.4 Physical Lines: Interaction Consolidation'***

These natural lines are not disconnected – as can be seen with the intersection between the River Line and Coast Line when discussing flooding issues present in Karantina. Natural lines often occur besides, or even because of, other lines; for example, the River Line would not be present without the Contour Line. Because of this, when mapping natural lines, it is often prudent to consider them collectively as well as independently, noting which lines affect which areas more than others, and additionally identifying places where development may improve the relationship between these lines and the experience of the city.

Focusing on the reduction (or more accurately destruction) of the Forest Line and the River Line highlights the need to address ecological and sustainability-focused development within the city. Initiatives aimed at rewilding have begun to occur throughout the city and are increasingly becoming a part of the collective consciousness (potentially collective aspiration). A notable example of a local practice that aims to address issues pertaining to both the River Line and Green Line is Beirut's RiverLESS Forest project in 2019 by theOtherDada (theOtherDada, 2019). This project reintroduced over 7,680 trees and shrubs, including 23 different native species, along parts of the Beirut River bank aiming to revive the native ecosystem and mitigate pollution in the river. Small-scale interventions of this nature can be evaluated as part of efforts to advance sustainable development strategies, utilising thoughtful approaches to urban rewilding and the development of social spaces.

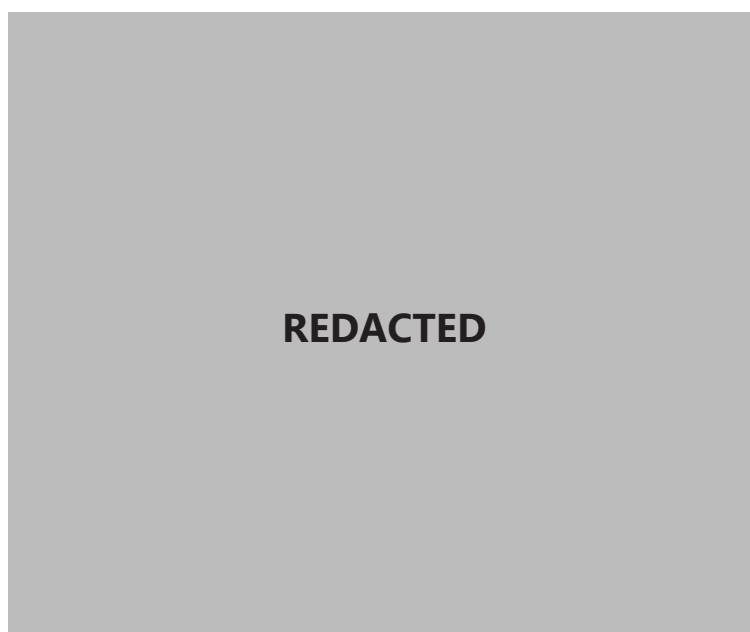


Fig. 5.10.
Photograph of Beirut
RiverLESS Forest Project
Before & After (2019)
[Source: D&ad]

5.3 HUMAN-MADE PHYSICAL LINES

Through the analysis of both existing and historical natural lines – those that influenced early settlement – methodological foundations for exploring human-made lines are formed. The Horsh Beirut exemplifies instances where a natural line has been erased to make way for new human-made lines, such as roads. Earlier, 'human-made' lines were defined as streets, barriers, structures, and land divisions – broadly topographical or architectural features shaped by human effort. Shelter marks one of the earliest human-made lines: whether the occupation of natural shelters such as caves which produce a social boundary line set by ownership, or the construction of pre-historic huts which physically delineate those boundaries. From shelters, pathways emerged to facilitate movement between these, leading to the formation of more structures with purposes beyond mere habitation, such as facilitating gatherings for business and community. The creation of lines is embedded in human development.

For a country that is home to some of the oldest settlements in the world, Lebanon still retains vast numbers of its natural lines alongside its human-made ones; from its mountains and hillsides, to its rivers and waterfalls, and its forestry and grasslands. Beirut, however, is stark in being composed of predominately human-made lines. Just like the wider city itself, Karantina and Sabra are almost entirely formed of human-made lines; other than the natural contour lines of the ground which have been paved over to create streets and pathways, built upon for housing and other uses. In Karantina specifically, the Coast Line has similarly been altered and privatised for contemporary port usage. While human-made lines currently dominate the physical composition of these neighbourhoods, this does not imply conceptual precedence. Natural lines remain foundational when considering historical formation, sustainability, and sociocultural dynamics.

As described, there has been a significant reduction in the presence and subsequently impact of the natural lines on development. Because of this, when challenging the lines which form the city, researchers in the field of topographical interpretive mapping may face a need to 'widen the net' of considered data. Human-made lines in a city such as Beirut here offer an alternative for understanding the potential avenues for development planning in the two research sites. Assessing the existing surveys of Karantina and Sabra against my own mappings served three purposes: the first to update the existing record, and the second to acquaint myself architecturally with the two neighbourhoods, and primarily to review the functionality of the human-made lines through an architectural lens.

Over several months of fieldwork, including interviews with residents and participatory workshops with local children, a series of analytical maps were produced. This process of architectural map-making enabled a more effective examination of the map produced in Workshop 1 by the child participants, allowing for more easily identifiable locations of interest and potentials of lines. While most of these maps were not to scale, the observations and discussions were used to verify realistic positions. Verbal descriptions from the children and comments made within the interviews also served to build a more nuanced interpretation of the man-made lines within these neighbourhoods.

5.3.1 STRUCTURES

*For this subchapter please refer to **Appendix A - Portfolio Drawings: '5.3.1 Structures'***

In order to clarify its linguistic application, in referencing Lynch's categories of urban analysis (1960), and the adoption of this concept of 'Lines' – a wider concept also utilised by Ingold (2016) – rather than viewing 'Lines' as a conventional one-dimensional marking in space, in this research the term is interpreted as abstract and used to group various exploratory map features. Structures thus become lines both individually and collectively. Physically, they form a boundary (lines) between indoors and outdoors; socially, they mark distinctions (lines) between public and private realms.

Shelter is intrinsic to the human condition, and as we have evolved, so have our structures. As one of the world's oldest inhabited cities, Beirut has seen various architectural typologies emerge over time. With the bureaucratic chaos that followed multiple conflicts – such as the Israeli siege and Lebanese civil war (Britannica, n.d.) – development became frenzied and unregulated, often reacting to population surges. Today, modern high-rises sit beside Ottoman-influenced buildings and mid-century brutalist structures: 'A Symphony of Historical and Modern Architecture' (Masri, 2024). Beirut is a city of contradictions, especially in its architectural posture.

Current maps of Beirut often differ from on-the-ground reality. With no stable government since 2019 (Chulov, 2020), unregulated development has flourished, resulting in existing maps having several discrepancies. Additionally, the existence of numerous camps – often inaccessible to outsiders – has led to mapping voids. Informal areas house an estimated '53% of the urban population' (Zaiter, 2021:460), and analysis of Beirut's nine recognised informal settlements suggests they constitute around 30% of city structures. In a 2022 article titled 'Redesigning Informal Beirut:

Shaping the Sustainable Transformation Strategies' these settlements are grouped into: refugee camps, low-income migrant housing, and civil war-era squatter settlements (Lorens, Wojtowicz-Jankowska & Kalfouni, 2022:174). Rather than address housing poverty or the lack of planning, officials often blame residents for the prominence of these structures in the city. In an interview about illegal construction on the Lebanese Coast Line, Mohammad Ayoub, director of Lebanese non-profit Nahnoo (an organisation which advocates for participatory development policy in public spaces) described the Lebanese Minister of Public Works and Transport's interest in dismantling informal structures as being driven by individual financial motives: 'They are treating the violations as a source of income' (Ayoub, 2023).



Fig. 5.11.
Photograph overlooking
Shatila Refugee Camp's
informal structures, March
2023.

While Karantina is a recognised informal settlement, existing maps of the area proved relatively accurate. Post-2020 blast, Karantina benefited from numerous mappings produced by organisations which were interested in redeveloping the area (BUL, 2021). Karantina consists mainly of residential buildings and industrial warehouses. While some buildings were renovated or restored post-blast, very few new structures were built, though a few have been recorded, such as the Community Room in Karantina Park (CA, 2021). Unlike in Sabra, residential and commercial distinctions are clearer. Additionally, the extensive research on the area and redevelopment that occurred post-blast initiated a process of formalising the neighbourhood. While it is still considered an informal settlement, most of the structures have now been redeveloped with the approval of local government.

Sabra, one of Beirut's main residential and commercial areas, lacks recent

comprehensive surveys. Most residential buildings are concrete mixed-use blocks from the 1970s–1980s, like Athenian *polykatoikia*, there are multiple apartments built within a concrete column structure, typically with the ground floor operating as a car park or commercial space. This can be noted in a drawing depicting a ‘typical Sabra Block’ on the referenced portfolio drawings page.

In surveying of the area, it was noted that while many of the residential and government buildings are mostly recorded accurately, there were discrepancies in records of commercial structures. Asking locals about the commercial spaces revealed the impact of the recent economic collapse, which resulted in many businesses closing and newer ones emerging: ‘The past few years it has been this way, every two days an old shop goes bankrupts and a new shop takes its place. We are not rich people here; we just try to live’ (Man, 48, Sabra).

Mapping structures within the Shatila camp posed more challenges. Most maps are outdated or inaccessible. During three brief periods of permitted access to the camp, small sketch maps of the streets visited were produced. It was advised not to produce accurate maps of the structure locations, uses, or routes with my notes for safety reasons. To adhere to this request, the maps drawn for this research specifically of the Shatila camp are demonstrative of the composition of the camp, rather than representing an accurate depiction.

The relevance of structural mapping in the research related to the outlook towards future development. Without accurate documentation, it becomes difficult to identify the needs of an area and the parameters within which redevelopment may occur. The way these structures are built, their ownership, and their placement in relation to other structures are key data points – vital lines – which are essential for understanding the locality. Even absent data, such as in Shatila, reveals a local aspiration among residents: one that seeks to minimise involvement from ‘outsiders’.

5.3.2 ROUTES

*For this subchapter please refer to **Appendix A - Portfolio Drawings: ‘5.3.2/3 Routes & Boundaries’***

The current records of routes within the city of Beirut are accurate in terms of the physical reality of the place. In using a common digital navigational tool, such as Google Maps, one can easily travel around the city, whether by vehicular transport or through pedestrian pathways without prior



Fig. 5.12.

Photograph of average pathway within Shatila Refugee Camp, March 2023.

knowledge of specific locations. What these tools do not account for however, is the habits of the local population. They do not account for the cars that park on (and therefore block) pedestrian pavement ways, nor do they address the lack of formality with regard to directional traffic, which is a significant cause of the city's traffic problems. Lebanon has been described as having a 'chronic traffic problem which dates back to the 1990s' (Chami, 2017). It is highly common in Beirut for individual vehicles, especially motorbikes, to travel against the direction of traffic for personal convenience.

In my mapping of the two research sites, I spent a considerable amount of time observing traffic patterns. As noted, mapped routes were accurate; therefore, it was not the physical location of a Routes Line that had to be examined, but rather the use of them. In Sabra, only the larger main roads were spared from cars and vans travelling in a manner which was not in line with the lawful road traffic directions. It was also frequently observed that cars were double or even triple parked, without concern for the obstruction of traffic. Furthermore, pedestrian routes were also poorly maintained, with various sections of streets being unsafe to walk on, especially for those with mobility issues. In spite of this fairly comprehensive physical mapping, there was one location in Sabra where pre-existing drawings of routes were unavailable: the Shatila refugee camp. It appears that there is no accurate and comprehensive Routes Line map of the camp publicly available; even the few maps which exist of the wider neighbourhood only depict the main streets within the camp. The camp itself is an amalgamation of alleyways, most of which are aerially undetectable due to the way structures are built over them. These pathways are shaped not by considerations for travel within the camp, but rather by the access individual structures require.

Because of its significantly sparser population density, the neighbourhood of Karantina does not experience the same traffic issues as Sabra. In fact, it was common to see no, or very few, vehicles in motion, especially during the middle of the day and late in the evening hours. Karantina is a relatively easy neighbourhood to navigate, and due to the 2020 blast, many of the pedestrian routes have been restored. The streets in this neighbourhood are often used for public social gatherings for the locals, encouraged by the lack of safety concerns due to limited vehicles. The functionality of the Routes Line in Karantina can be considered an anomaly in the city of Beirut and likely cannot be replicated in the wider city without severe new regulation and urban planning initiatives by the government. However, the effective maintenance of these routes in Karantina provides a valuable model for broader city development.

5.3.3 BOUNDARIES

*For this subchapter please refer to **Appendix A - Portfolio Drawings: '5.3.2/3 Routes & Boundaries'***

As with any major city, not all routes or land are publicly accessible. The privatisation of space (referring to access rather than denationalisation (Trein & Maggetti, 2023)) creates a Boundaries Line shaped by ownership, regulation, or implicit social agreement. Boundaries can be clear – marked by fences, signage, or checkpoints – or perceived through social cues such as wary glances or shifts in the inhabitants' demeanour. Boundaries exist on a spectrum between physical and intangible. Through physical observation, local conversations, and architectural surveying, an understanding was built of where different types of barriers were situated within the two research sites.

Military checkpoints are common throughout Beirut – especially on highways and at neighbourhood entrances. Additionally, large military bases are scattered across the capital. One is located at the Camille Chamoun Sports City Stadium, a 10-minute walk from the Sabra market, and serves as the entry point for the wider neighbourhood from the Hafez El Asad motorway. Another operates at Karantina's port entrance north of the community. These serve as a clear example of government-established boundaries throughout the city. While prominent, they generally do not disrupt daily life, aside from restricting coastal access in Karantina.

Businesses and residences also delineate the line of Boundaries. Most market spaces are public, while larger commercial properties and parking lots vary – some are open, others gated. Residential buildings present more complex divides. These are difficult to determine from a structural point of view: the physical Boundaries Line dissipates, and intangible public/private divides (lines) become pertinent. These intangible boundaries are not always structurally defined but are socially reinforced. Though Chapter 6 – 'Intangible Lines' – expands on this, in regard to Physical Lines, structural elements still play a role: the difference between a perceived physical boundary and the socially acknowledged 'real' boundary.

The boundary of the Shatila refugee camp – like others in Sabra – also embodies this 'Boundaries Line' blurring. Maps show clear demarcations, and entrances are often marked. However, while these are clear physical boundary markers, one quality of the camp's boundaries which is notable is the role of its residents. Residents monitor outsiders approaching, often before they reach the threshold. Some community leaders run businesses near the entrances, enabling opportunities for easier surveillance: 'From

my [butcher's] shop here I can see everyone... No one new would get close without my seeing it first' (Man, 63, Sabra). The entrance to the Shatila refugee camp emulates the blurring between the physical and intangible for multi-resident domestic buildings, but in this context, it is projected at a 'neighbourhood' scale.

5.3.4 OCCUPATION

*For this subchapter please refer to **Appendix A - Portfolio Drawings: '5.3.4 Occupation'***

'We can't play on the pavement, our dads sit there' (Boy, 9, Sabra)

The common use of space lives between the Physical and Intangible: it can be characterised as an experiential element within neighbourhoods, alternating between both categories. However, when regarding the common use of space through the ways social spaces are physically occupied – such as the area radius of the spatial activity, or the furnishing used in the act of occupying space – the occupation of spaces becomes a physical line which should be addressed. So, for the purposes of consolidating the ADC, this will be categorised as the Occupation Line, referring to the 'physical occupation of space' rather than 'common use of space'. When defining 'space' for this line, this is limited to outdoor public spaces: streets, public stairs, open land and parks.

In Sabra, there are two predominant types of physical occupation of public space which do not include business or transit: children engaging in play and adult men socialising. They are both temporary occupations of space, with both having set times throughout the day. Children often play in the limited open land available in the neighbourhood, often used as carparks. The use of these spaces for the act of play usually take place in the one or two hours following the school day. Unfortunately, the children are often met with disapproval from passing adults and vehicles and are often considered to be trespassing despite these areas being public land. 'The men there shout at us and tell us to go home, but we want to stay and play, there is nowhere near home to play' (Boy, 12, Sabra).

In stark opposition to this, the adult men in the neighbourhood can often be found sitting on pavements and street corners in larger groups. This occurs throughout the day and often more prominently late into the evening. This form of social spatial occupation often breaches the boundary between public and private ownership of land. Although these men do not have formal ownership of the street corners, there exists a social understanding of which group 'owns' a particular area, making it an

accepted use of communal space. The use of chairs, small coffee tables and shisha pipes form a physical signifier of this social area. The use of personal furniture (private) in the public realm is used as a physical sign of territory marking. For the men in the neighbourhood, in human and political geography, this aligns with the human territoriality notions of 'spatially delimited control [...] as an intentional strategy of power and a way of exerting administrative and spatial influence in society' (Kärrholm, 2005:1).

These two physical occupations of public space are also observed in Karantina; however, unlike Sabra, the presence of children playing open public space is seen as a legitimate use of space in this neighbourhood. This may be due to the fact that the neighbourhood is less densely built up and that there are far fewer cars. It may also be attributed to the multiple child-focused initiatives that have occurred in Karantina, some of which have been highlighted previously in Chapter 3 – 'The Phoenix City', as designed and built by CatalyticAction. It is suggested that 'small-to-medium scale shared outdoor spaces induce externalities, including social community connectedness characteristics such as enhancing social interactions and [...] opportunity for residents to have social encounters' (Meyer et al., 2021). The utilisation of public space by children serves as a tangible symbol of community cohesion, encouraging further equitable use of the area, challenging existing paradigms of territoriality, and reaffirming commitments to spatial justice.

5.3.5 HUMAN-MADE PHYSICAL LINE INTERACTIONS

*For this subchapter please refer to **Appendix A - Portfolio Drawings: '5.4 Physical Lines: Interaction Consolidation'***

The interaction between natural lines can be seen to be paralleled by man-made lines, where each line contributes to the formation of another. The Structures Line establishes the Routes Line, that subsequently go on to physically define ownership creating Boundaries Lines. It is these boundaries that impact the right to the physical occupations of space. In examining the intersection between these lines through analytical mapping, the relationships among these lines become more easily identifiable. These man-made lines contend with the interactions, which are collectively more significant than the lines themselves. This is evident through the identification of these lines. The description of each of the lines often directly or subtly references other man-made lines. Additionally, when producing maps of these lines, we are not only able to identify these references but also assess their impact on each other.

An example of this is the notable similarity between the two sites – when analysing the integration of the man-made lines in each neighbourhood. We can note the link between informal settlement boundaries and the route usages within them. In both Karantina and the Shatila portion of Sabra, there is minimal traffic. It is a logical understanding that informal neighbourhoods would have less vehicular access, due to the absence of government-guided urban planning involved in the development of routes. Additionally, informal settlements are often developed on a structure-by-structure basis, with housing as the primary concern. As a result, their neighbourhood boundaries can resemble those of multi-residential apartment complexes: routes being akin to shared corridors. This can be noted in Shatila; as described, it is made up of pedestrianised pathways with buildings often ‘climbing’ over them. This physically merges the routes within the perimeter of residential spaces.

5.4 PHYSICAL LINES: INTERACTION CONSOLIDATION

*For this subchapter please refer to **Appendix A - Portfolio Drawings: ‘5.4 Physical Lines: Interaction Consolidation’***

It has been illustrated how the lines, within their specific categorisation as either natural or man-made, may interact together: this interaction can also be achieved across categories. As previously mentioned, effectively mapping the physical characteristics of land requires consideration of both natural features and human-induced changes to it. It is therefore the case that there will be analytical overlaps between these two categories. Not only has human activity impacted the evolution or destruction of natural lines, human-made lines are also constructed over nature. In the context of a city like Beirut, Lebanon, whereby much of the city has experienced development of some sort, it is sometimes difficult from observation alone to ascertain whether natural lines still hold significance in comparison to the human-made lines. By consolidating all the Physical Lines, we can more accurately identify the extent to which these two categories impact each other.

The following analysis focuses on Karantina, addressing the following sets of lines: River, Contour, Routes and Boundaries. When analysing the consolidated Physical Lines map for this neighbourhood, we can identify all these lines as being present. However acknowledging the already established flooding issues when addressing the River Line specifically, we can understand the topographic issues at play. Karantina sits on relatively flat ground, and with no sewer system when the river floods the water

often sits on the area, taking a significant time to dry out or move to lower terrain. This paired with the location of the peripheral routes, which when flooded block (form a physical barrier) access in and out of the neighbourhood helps us narrow down sites of potential query in relation to these lines.

The Physical Lines are identified through ADC and are intended to be the primary data output from this strategy. These may be mapped out independently or supplemented using the addition of secondary data gathered through observations of interactions within the sites and interviews to further enrich the information presented. This mapping approach – encompassing the identification and subsequent overlap analysis of these lines – provides an effective means of documenting existing physical compositions of urban environments and offers an opportunity to identify potential stages for developmental intervention, from an architecturally-driven perspective.

5.5 SUMMARY

One of the primary objectives of this thesis was to develop a mapping methodology designed to investigate local topographic contexts and the spatial narratives within complex urban environments. Through the identification and analysis of Physical Lines across the neighbourhoods of Sabra and Karantina, this chapter has demonstrated how natural and human-made features shape the spatial structure and lived experience of the city.

The analysis demonstrates that these lines rarely operate independently. Instead, the interactions between Contours, Coast, Rivers, Routes, Structures, and Boundaries generate layered spatial conditions that influence accessibility, environmental risk, and the everyday occupation of public space. By mapping these interactions, the Physical Lines framework enables the identification of spatial relationships that may not be immediately visible through conventional urban analysis.

As an outcome of the ADC strategy, the Physical Lines presented in this chapter constitute a primary spatial dataset within the broader lines-based toolkit developed in this research. It provides an overarching perspective that can serve as a descriptive or visual summary, from which specific lines can be extracted as necessary for various purposes. Throughout the discussion, there are indications of potential alternate lines that may play roles within cities. The physical structure of the city

alone cannot fully explain how space is experienced or negotiated by its inhabitants. Insights gathered through interviews and participatory workshops revealed additional layers of spatial meaning shaped by social practices, perceptions, and cultural norms. These findings introduce a complementary set of analytical categories – Intangible Lines – which are explored in the following chapter.

INTANGIBLE LINES

The Sociocultural Nuances of Neighbourhoods.

*For this chapter please refer to **Appendix C - The Workshop Diary**
pp. 58 – 71, 84 - 101*

6.1 INTRODUCTION

While Physical Lines reveal the material composition of the city, they do not fully explain how urban space is experienced, negotiated, or understood by its inhabitants. The second layer of the Lines framework therefore addresses the social and experiential dimensions of space, defined in this research as 'Intangible Lines'. These lines emerged from the Collaborative Data Collection (CDC) strategy, particularly as a result of the interviews and participatory workshops with residents and children. Unlike Physical Lines, which are identified through architectural observation, Intangible Lines capture cultural practices, perceptions, and social boundaries that shape everyday urban life. Identifying these lines is not simply a way to categorise social dynamics; rather, within the designed methodology it points to where spatial conditions and social practices intersect, allowing potential areas of intervention to be recognised.

While the thesis initially focuses on Beirut's topographic environment and spatial descriptions, the methodology also sought to identify the city's ethnographic context and temporal narratives. It is this latter objective which represented the basis for uncovering the urban imaginaries and collective aspirations of the local communities. By identifying these sociocultural dynamics, the analysis of Intangible Lines provides insight into how residents – particularly children – imagine alternative spatial possibilities within their neighbourhoods. After engaging with the Physical Lines in Sabra and Karantina, it became increasingly evident that while Physical Lines may serve as a way to envision fundamental architectural and topographical aspects of each location, the maps produced created

to represent these lines cannot encapsulate personal experiences and can only offer assumptive analysis in response to potential challenges.

To address this gap, the Architectural Data Collection (ADC) strategy facilitated the exploration and analysis of the Physical Lines, and in parallel, the CDC led to the discovery and analysis of the Intangible Lines. This dual strategy was grounded in participatory theories of architectural development which have been shown to offer substantial benefits for community development.

'Experience with participatory housing and urban development projects demonstrate that community-based organisations and housing users can make important contributions to the provision and operation and maintenance of housing and urban systems. Benefits derive not only from cost reduction and resource mobilisation, but also from better targeting of project measures to peoples' real needs through their involvement in the planning phase.' (Afify, 2011:24)

Fundamental participatory practices which were collected in the CDC phase involved conducting interviews with a range of locals, as well as actively engaging in local initiatives as a researcher, and most crucially facilitating collaborative mapping and design workshops with child participants. These approaches resulted in two main types of data: verbal descriptions and physical visual outputs.

This process identified two categories of Intangible Lines: explicit and implicit. Explicit Intangible Lines here refers to social elements which are integral to the composition of a community that can be recognised as broader issues through architectural observation but still necessitate participatory input to fully understand the nuances that influence their dynamics. In contrast, implicit Intangible Lines are those that can only be identified from input from local communities, both in terms of their existence and impact.

The structure of the workshops was intentionally adapted to align with local sociocultural practices related to the use of public spaces. In both Sabra and Karantina, children's participation in public environments is influenced by culturally established expectations relating to age, gender, and family reputation. For instance, the presence of girls in certain public areas may be closely monitored due to concerns related to reputation or perceived appropriateness, while children's mobility is often facilitated through familiar neighbourhood social networks. These factors shaped

the organisation of workshop activities, including the use of small peer groups, local facilitators familiar to participants, and activities that encouraged children to reflect on places they already frequent, rather than requiring engagement with unfamiliar public environments. Recognising these local participation norms was essential for creating a comfortable environment for children to contribute and ensuring that the outcomes accurately reflected their genuine lived experiences rather than imposing assumptions from outside perspectives.

6.2 EXPLICIT INTANGIBLE LINES

Explicit Intangible Lines refer to the social components of a community that are relatively overt in their presentation. As discussed in the analysis of certain Physical Lines in Chapter 5 – ‘Physical Lines’, observations were made regarding the compositions of the neighbourhoods of Sabra and Karantina that extended beyond their physical characteristics. For instance, when examining the Boundaries Line, it was evident that there was another aspect influencing the identity of this line that was not physical, but rather sociological, in nature. Although physical Boundaries Lines existed, it was also observed that they do not necessarily reflect the socially driven public/private thresholds. Accurate representation of these required specific details necessitating insights from residents. This led to the identification of the first of a set of similar lines: the Public/Private Line.

6.2.1 PUBLIC/PRIVATE

*For this subchapter please refer to **Appendix A - Portfolio Drawings: ‘6.2.1 Public/Private’***

There is one Intangible Line that is ever present within all human social dynamics: that which divides the thresholds between the public and private. This Public/Private Line serves as the foundation for many other lines, e.g. Boundaries. Karantina and Sabra, although both urban neighbourhoods, exhibit very different perspectives with regard to the Public/Private Line. These distinctions can be viewed as natural disparities between central city neighbourhoods such as Sabra, and those on urban peripheries, in this case Karantina. However, it is important to evaluate the impacts of these distinctions, especially those concerning other lines, whether Physical or Intangible.

The Public/Private Line in Sabra reflects traditional urban patterns: the home is private, the adjacent street semi-private, and the wider neighbourhood public. Sabra is densely populated, and while children

often roam, their community engagement is usually limited to their own street. Adults generally know the children who live on their street, but this awareness fades across the neighbourhood. Consequently, children's spatial experiences are restricted, mostly due to concerns related to safety and racial prejudice, with mothers confirming this: 'I let my kids play on the street here, I know the neighbours, I know the shop owners, and they know me and mine. My kids are safe here. No one knows them over there [on the other street]' (Mother, 45, Sabra).

In contrast, Karantina's smaller population has fostered broader community familiarity. Residents not only recognise the family affiliations and where different community members reside, they are also easily able to identify outsiders. Residents frequently asked about my presence in the neighbourhood. 'I knew you weren't from here; you've never been. I would have remembered if you had. We remember everyone here. Everyone here is "family"' (Shop owner, 67, Karantina). The Public/Private Line here resembles that in rural settings: the home is private, the broader residential area is semi-private through a scope of social familiarity, and then the wider neighbourhood's edges are deemed public. The dynamics of community cohesion and spatial experience here are more pronounced.

This nuanced understanding of the Public/Private Line within these communities provides a fresh perspective on the interpretation of the physical Boundaries Line. Through this analysis of both these lines in partnership, architectural and social thresholds become identifiable, clarifying how residents in the city engage with their environment and with one another. Moreover, through this analysis I was able to discern the rationale behind the positioning of these lines, shedding light on local community considerations in establishing social zones. For instance, in Sabra, safety is a primary factor influencing the definition of the Public/Private Line. Moreover, while safety concerns are less pronounced in Karantina, other cultural factors are acknowledged as playing a significant role in shaping this line across both sites: particularly those related to gender and age.

6.2.2 AGE

*For this subchapter please refer to **Appendix A - Portfolio Drawings: '6.2.2/3 Age & Gender'***

There are several factors which may impact an individual's experience within their city and 'age' is one of the significant ones. While cities are often designed primarily based on consideration for able-bodied non-senior adults (typically male), this does not reduce the importance of

children as actors within their cities:

'In their everyday life children regularly move in and between the spaces of the home, street, neighbourhood, town and city. Norms and practices governing space and time in one arena have their impact on the other. For example, changes in the perceived safety of public spaces, generated by concerns about traffic or strangers, re-structure family practices, and in turn affect children's participation in civic life.' (Chirstensen & O'Brien, 2003:4)

These governing 'norms and practices' within cities are seen to disproportionately affect the freedoms of child residents, and more so for the younger child residents. As a result, there are several experiences lines dependant on age. As described the subtleties of Intangible Lines meant that these could not be identified through observation alone, so to identify these lines from the vantage point of children, workshops with child participants across both neighbourhoods were undertaken.

Workshop 3 revealed important dynamics relating to the age-related Intangible Line that directly affected the participant children. In this workshop the children were asked to design a 'space for them'. As the workshop progressed, it became evident that the children's outputs across focus groups shared core similarities. However, this does not imply base homogeneity; the outputs were similar in their rationale, but all had nuances.

While the thesis methodology is centred on age inclusivity – specifically children's experiences in and aspirations for their neighbourhoods – previously unrecognised details relating to this emerged in the outputs. Children across both sites produced 'places' that reflected a sense of responsibility toward their wider communities, aiming for inclusivity as they understood it. Even when designing based on individual preferences, they often prioritised inclusive choices, particularly in relation to age. This suggests that children's spatial imaginaries are often socially oriented, challenging assumptions that children's urban participation focuses solely on play.

When asked to create their ideal spaces in Workshop 3, girls designed areas resembling traditional playgrounds with added communal seating. In contrast, boys uniformly created football pitches. When asked why they didn't propose something more ambitious, they explained that football pitches were spaces they idolised. As the primary free social space in Beirut for children – particularly for boys – football fields are often monopolised

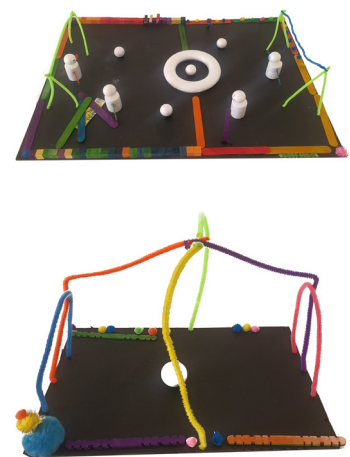


Fig. 6.1.
Football pitch outputs
from Workshop 3, Sabra
and Karantina, 2023.

by older, typically Lebanese teenagers. Younger and Syrian boys expressed a desire for equal access to these spaces. This underscored the need to reframe the concept of age inclusivity.

The CDC strategy revealed that children (aged 6 to 12) experienced varying levels of spatial ownership in the city. Even a two-year age gap – such as between an 8- and 10-year-old – revealed significant disparities in access and ownership of space. This suggests that age-based access to urban environments operates on a far more granular scale than is typically acknowledged in child-friendly planning frameworks. This variation led participants to prioritise inclusive design when given the opportunity to do so. One boy noted, 'We are all working together to design this; it's not fair if only I'm allowed to play here like in a normal football pitch. The smaller kids designed it too' (Boy, 10, Karantina). These responses demonstrate how children's design proposals extend beyond individual preferences, reflecting collective urban imaginaries that prioritise shared access and inclusivity within neighbourhood spaces. A similar approach to inclusivity appeared in predominantly female groups, but with a focus on the inclusion of adults as well as children. One group mentioned the need for comfortable seating so 'old people can sit too' (Girl, 8, Sabra). The children's designs – particularly those produced by the girls – emphasised social spaces suitable for all age groups. Through the process of identifying and designing spaces for children, these workshops developed solutions that also account for the needs of associated adults, such as parents, older siblings, and elderly relatives.

Age was the main factor which socially affected the experience of the participatory groups in the city. And while this can be attributed to the choice only to include child participants in the collaborative workshops, it does not change the reliability of these data as the implications reflect the wider community. The children's experiences are real and personal to them. And this lack of acknowledgement that they are key figures in their communities can also be recognised in the lack of children's spaces, particular in Sabra, and the previous lack of children's spaces available in Karantina prior to the Beirut Blast and international initiatives formed because of this.

6.2.3 GENDER

*For this subchapter please refer to **Appendix A - Portfolio Drawings: '6.2.2/3 Age & Gender'***

In a country like Lebanon, which largely adheres to cis-heteronormative

structures of gender and sexual identity, it is not difficult to observe the influence of this on social narratives in urban settings such as Beirut. As with the Age Line, while architectural observations may reveal insights related to a potential Gender Line, critical context regarding the composition and implications of this line may be lacking without contribution from residents.

Beyond age-based limitations, the genderisation of space was also a prominent theme that emerged in Workshop 3. As noted, the boys produced spaces akin to football pitches; however the girls tended to design areas more reminiscent of traditional playgrounds. While boys have access to existing football pitches, the girls were socially restricted regardless of age. Consequently, the girls were more inclined to develop types of spaces that may not exist at present within the city. Rather than aspire for access to existing male-dominated spaces, they sought to create spaces of their own. 'We can play on the street sometimes, but not like the boys, not always, not when its busy or darker' (Girl, 8, Sabra). In this sense, the girls' workshop outputs reveal alternative urban imaginaries in which spaces are designed to accommodate their participation rather than requiring them to adapt to existing male-dominated spatial practices.

This gender disparity was evident across both Karantina and Sabra. In both neighbourhoods girls were restricted to playing on wide open streets, where their parents or neighbour could more easily monitor them. They had less spatial freedom than their male counterparts. Additionally, specific streets or areas were often labelled as 'where there are men/ boys', inferring that the girls were discouraged from these places due to concerns about safety and 'honour'. While Lebanon has a variety of demographics, the cultural notion of 'honour' still plays a vital role in this society. In a study entitled 'Religion, rule of law, or the family honour? Moral commitment among Lebanese children', Irma-Kaarina Ghosn concluded that 'analysis showed that Lebanese children's moral decisions were guided by the cultural constructs "*ofwajibāt*" (social duties/obligations) and "*Sharaf*" (honour), with religion and concern for the rule of law also appearing in their responses' (2009). Specifically, females may be deemed as 'lacking honour' if they are seen to be interacting with males in certain communities.

Awareness of these cultural norms also shaped the facilitation of the participatory workshops. Activities were structured to ensure that girls could contribute comfortably within peer groups, and discussions about public space were framed around everyday experiences such as routes to school or neighbourhood play areas. This approach allowed participants to

discuss sensitive spatial dynamics – such as where girls felt able or unable to spend time – without directly challenging existing cultural expectations during the workshop process.

This issue of traditional gender norms is one which several female participants expressed frustration at. They wished it could be addressed positively within their cities and neighbourhoods. The male participants also acknowledged these disparities and often made efforts to adjust their design to be more gender inclusive. Ultimately, the responsibility for addressing these concerns rests with the adult population and community decision-makers. In Karantina, initiatives are being implemented to address the lack of female-orientated space in the neighbourhood, such as the recent 'Teenage Girls Public Space' (Catalytic Action, 2024). I had the opportunity to contribute to a design workshop for this project in August 2023 (Catalytic Action, 2024). The goal for this project was to develop public space interventions in Karantina that specifically serve the girls in the neighbourhood. While some may argue that this is not an inclusive approach as it operates to form a space solely for girls, it is, in fact, an equitable and culturally viable strategy.



Fig. 6.2.

Photograph from the 'CA 2023 Workshop 2 – Design' (2023). [Source: CatalyticAction]

What can be established from the mappings of the neighbourhoods in relation to the Gender Line, is that the spatial limitations of girls are related to proximity either to school or home. In Karantina, this is extended to included child-friendly spaces such as playground, the existence of which has allowed for girls to move more freely within their communities. When considering the possible implications of this, it suggests the need for more demographic-specific specialised places within communities.

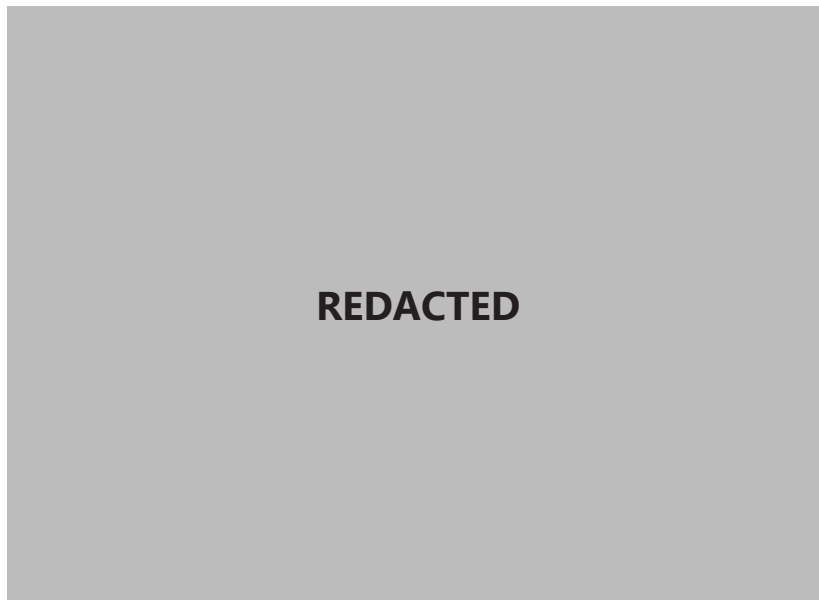


Fig. 6.3.

'Teenage Girls Public Space', Karantina (2025).
[Source: CatalyticAction]

While this Gender Line may not resemble the cultural norms found in the West, when considering shared urban imaginaries and development planning, it is important for researchers to take into consideration the specific context of their research. While participatory research should remain sensitive to local sociocultural contexts, it must also recognise existing power dynamics within those contexts. In this research, the aim was not to impose external normative frameworks, but to understand how girls themselves articulated spatial limitations and aspirations within their own social environments. Regarding this however, participatory approaches may also support the gradual introduction of more inclusive spatial practices, that lead to meaningful social change and increased viability of an intervention: allowing for a natural growth of the Gender Line as it pertains to the experience of girls.

6.2.4 EXPLICIT INTANGIBLE LINE INTERACTIONS

*For this subchapter please refer to **Appendix A - Portfolio Drawings: '6.4 Intangible Lines: Interaction Consolidation'***

It was anticipated that many of these explicit Intangible Lines would at some point intersect. These lines primarily relate to sociocultural human concepts and are crucial for the formation and adaptation of shared human environments. In neighbourhoods, these concepts may permeate the physical (and thus architectural) experiences of cities. As social beings, the places humans inhabit often emulate the sociocultural rules by which a community abides. Furthermore, typically these norms do not act in isolation; there are significant relationships between the identified explicit Intangible Line, specifically in relation to age and gender.

By analysing the experiences of girls at different ages in their neighbourhoods, alongside the reasoning for their decisions when creating workshop outputs, important insights into distinct patterns of urban engagement are revealed. Younger girls can navigate mixed-gender environments with greater ease than their older female counterparts. This is likely due to the honour and gender norms previously discussed. The limitations placed on the use of public space can be seen to diminish with the introduction of child-friendly spaces in a community. These child-friendly spaces, often designed for younger children, function in a slightly adjacent manner to the external gender division. Older girls are welcomed into these spaces and are additionally recognised by adults as legitimate users of the space as these places primarily cater to young children, rather than older boys or men; as such, they are considered a 'safe' space according to local honour codes.

In these interactions between explicit Intangible Line, the process of identifying urban imaginaries may find considerable expansion. When describing urban imaginaries, Christoph Lindner and Miriam Meissner acknowledge that 'cities tend to be seen as complex sets of social, spatial, and material characteristics' (2019:1), further addressing how in Henri Lefebvre's *The Production of Space* (1974) it is 'recognise[d] that space, much like human ideas, is a social product' (Lindner & Meissner, 2019:4). Therefore, social constructs which affect people's lived experiences within a city are important in the pursuit of equitable development which considers local needs. The intersections of these explicit Intangible Lines highlight prevailing social dynamic tensions that may not be adequately addressed in traditional spatial city analyses. Socially sustainable design relies on either maintaining existing social paradigms or enhancing them, and insights into these can be gained through the analysis of these intersecting lines.

6.3 IMPLICIT INTANGIBLE LINES

Building on the concept of Intangible Lines introduced earlier, several implicit social dynamics emerged through the participatory data collection: implicit Intangible Lines. These are learnt through lived experience, and proximity to others in the same society. While explicit Intangible Lines could initially be recognised through spatial observation before being refined through participation, implicit Intangible Lines were only revealed through narratives and lived experiences shared by the participants. By employing participatory research methods, researchers external to the community may be able to gain insights which lead to the discovery of

these lines. Without this, the data collected may lack the depth required to capture complex community dynamics. This may hinder a comprehensive understanding of which urban imaginaries are present, how they may be achieved in a specific context, and furthermore, what societal factors may have previously obstructed their being realised prior to the research.



Fig. 6.4.
Photograph of discussions
during Workshop 2,
Karantina, March, 2023

6.3.1 DIVERSITIES

*For this subchapter please refer to **Appendix A - Portfolio Drawings: '6.2.1/3 Diversities & Safety'**.*

Lebanon, while home to a large refugee population, is largely ethnically homogenous, with most residents of Levantine Arab descent. Though there are foreign workers and a notable Armenian community, distinguishing between these groups can be challenging for those unfamiliar with the region. Understanding the nuances within and among groups requires informed observation. Diversities represent a complex line to navigate in research, as they significantly shape residents' experiences but can also inadvertently escalate tensions. In this context, my adaptive positionality has been instrumental in exploring and understanding this Diversities Line.

In discussing diversities, I began with a neutral stance and provided a clear explanation of my background and intentions. As an ethnically Lebanese researcher, Lebanese participants largely perceived me as 'a local', even

though I am nationally British. With non-Lebanese participants, I leaned into my identity as a foreign researcher to foster an environment of safety and neutrality. Though my ethnicity and accent were recognisable, introducing myself as a British national helped alleviate any concerns participants might have had about potential bias. This was understood through early interactions, such as when I instinctively introduced myself as an architectural researcher from London with one Syrian woman who responded with, 'I feel comfortable with you... because you are not from here' (Woman, 54, Sabra). Drawing on standpoint epistemology, I acknowledge that my identity influenced my findings. This understanding was central to shaping the intentions behind the research-developed toolkit, discussed in Chapter 8 – 'The Toolkit'.

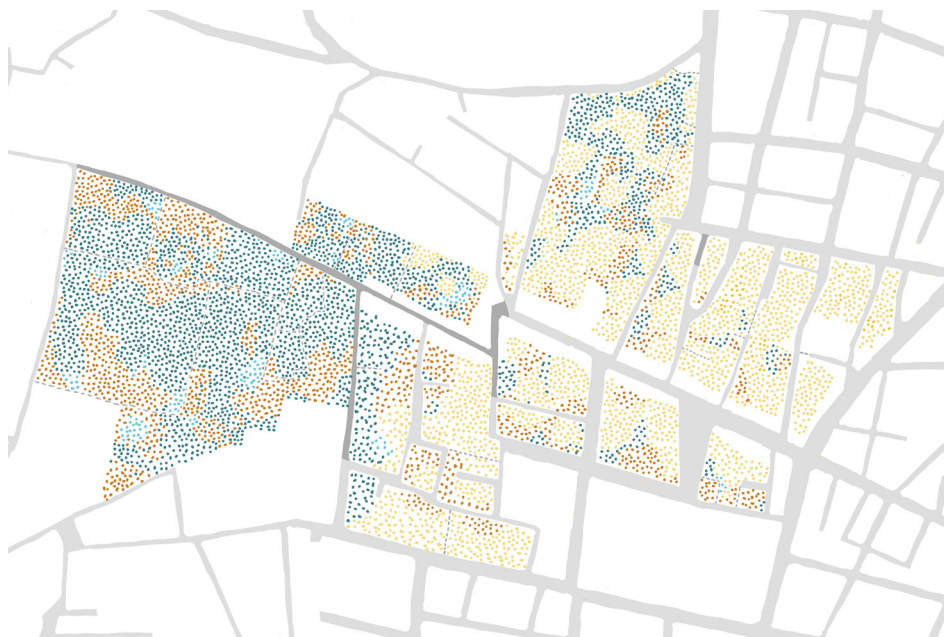
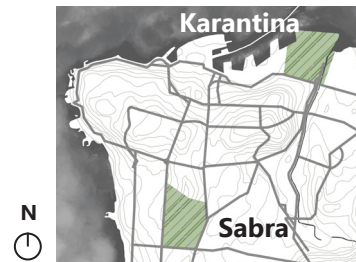
Smaller population densities are often attributed as resulting in the formation of cohesive community bonds. Small towns 'are the quintessential place where everyone knows everyone else, and for better or worse, monitor and sanction each other's behaviour to ensure that trustworthiness and reciprocity' (Besser, 2009:186). Karantina exemplifies this. The area's smaller population, in conjunction with the shared social impacts of the 2020 Beirut Port Explosion, has cultivated unique community bonds among its residents. Most residents know one another, creating a strong sense of mutual responsibility, which in turn gives children more freedom to move safely within the neighbourhood. This offers a greater amount of liberty for the children of Karantina than their peers in Sabra.

The children of Karantina have a relatively high expectation of safety. Karantina is also one of the few areas in Lebanon with multiple child-focused public spaces, built by NGOs after the explosion. The Karantina Public Park and Community Centre are examples of such spaces that have fostered a setting for social cohesion among its Lebanese, Syrian and Palestinian residents. One of my facilitators noted, 'It was difficult getting the children from different countries to play together without the park, there was a lot of segregation, however we have seen a great improvement in this' (Facilitator, 32, Karantina). This issue was echoed in Workshop 3, where a group designed a 'football pitch for all' (Boy, 8, Karantina), citing exclusion from other pitches due to being Syrian.

While in Karantina these racial divides have reduced drastically due to active initiatives. In Sabra, in contrast, very specific forms of community bonds have emerged organically. While these have reduced the tensions between different ethnic groups, they have not stopped them. The community diversities here are more prominent, as with the public/private divide, at the street level, rather than at a broader community level.

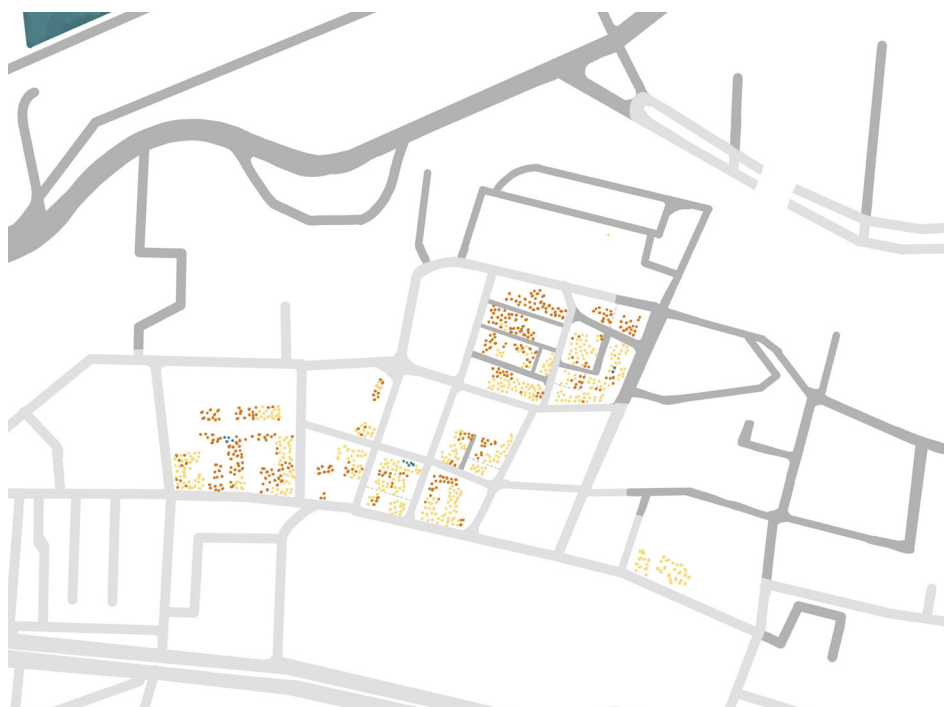
Individuals from similar demographics – not only ethnicity, but also, and sometimes more significantly, religious affiliation – tend to live in closer proximity to each other.

- Lebanese
- Lebanese (Returnees)
- Syrian
- Palestinian
- Palestinian (From Syria)



⊖ N
(Not to Scale)

Fig. 6.5.
Demographic map Sabra,
Beirut, 2024.



N
⊖
(Not to Scale)

Fig. 6.6.
Demographic map
Karantina, Beirut, 2024.

As one young girl from Sabra stated, 'This school isn't just for Lebanese kids. I'm Palestinian. But it is a school for those in the Jhameieh' (Girl, 11, Sabra). [Arabic: *Jhameieh* means Association. Here it is a colloquial term being used to refer to the AICP.] However, in further discussions with the locals, it was established that these ideological demographic bonds developed through proximity to each other. A local man remarked, 'Most people here were not in the Jhameieh, a few joined, and later over time most others here did too. My friend showed me, and I showed my other friends' (Man, 62, Sabra). In each of these physical neighbourhood blocks, a micro community resides, each with its own set of designated diversities.

6.3.2 EXPERIENTIAL RADIUS

*For this subchapter please refer to **Appendix A - Portfolio Drawings: '6.2.2 Experiential Radius'***

While the 'Radius of Experience' could be considered a Physical Line, its basis in individual lived experience makes it better suited to the intangible category. Mapping someone's daily urban experience requires either real-time access or data based on recollection, gathered through structured activities or interviews. This reliance on memory and perception renders the Experiential Radius Line not only Intangible, but implicitly so.

Though both Karantina and Sabra children are 'city kids', their daily experiences differ markedly. Even the simple act of 'going to school' embodies distinct meanings to each set of children. While Sabra has a wide array of public and private schools at various educational levels, there are no schools in Karantina, although the Spanish foreign minister at the time of Beirut Blast indicated that Spain 'intends to build a public school for 500 pupils' (Laya, 2020) in the neighbourhood. This has meant that the children have extensive (relative to the context) periods of travel in their day-to-day lives: 'We often wake up very early to go to school, and we travel together... the bus is on the highway, it's not safe, but it's the only way' (Girl, 12, Karantina). This disparity indicates a substantial difference in the Experiential Radius Lines between the two groups within the city. The children of Karantina have a much more pervasive experience of the city: one neighbourhood is for studying, one is for shopping and their hometown is reserved for more domestic activities. In contrast to this, the children of Sabra experience all these moments of city living within their own neighbourhood; they live, study, socialise and shop all on adjacent streets.

The distinctions between the two neighbourhoods became particularly clear during Workshops 1 and 2. In Workshop 1, it was expected that

children in both areas would map existing structures and places. However, the outcomes differed greatly across both sites. Sabra, being a densely populated inner-city area, provided much to map. Most groups asked for extra time, feeling they couldn't include everything. In contrast, Karantina's children – living in a more industrial, underdeveloped area – quickly finished mapping the existing elements and instinctively began mapping what they wanted to see developed. As noted in Chapter 4 – 'Adaptive Methodological Approaches' – both groups were given the same task time. Yet Karantina's children, aware of the limited built environment around them, clearly identified gaps based on their daily needs in other areas. When comparing the children's maps and notes taken through their mapping process, to that of maps produced through ADC, there is confirmation that the children's understanding of the span of their Experiential Radius Line is, to a degree, accurate. These additions can also be interpreted as expressions of urban imaginaries shaped by the children's daily movements across the city, revealing how gaps in local infrastructure inform aspirations for neighbourhood development.

In Workshop 2, children designed their 'ideal streets'. While all groups included similar structures – schools, homes, hospitals, grocery stores, and parks – the arrangements varied. As a collective, each focus group was given the opportunity to compose their streets with the structures they had designed: prompting very interesting and eye-opening conversations between the children, facilitators and myself. In Sabra, one focus group was adamant that 'the bank' should be next to 'the hospital'. At first the reason to me seemed unclear; however, when prompted the children explained that it would be a way 'to make it easier to get treatment money' (Boy, 8, Karantina) as most health care in Lebanon is private. This helped identify that certain individual children had spatial experiences which included regular visits to public infrastructure other than schools. Furthermore, in Karantina, decisions were focused more on noise, with the structures being arranged by ones deemed less to most 'noisy' in order to limit disturbances on the street versus the approach in Sabra whereby the children chose an arrangement which best suited individual needs rather than collective peace. However, both agreed that parks and play spaces should be near the home – the one caveat to the noise rule established by the Karantina group. The outputs from these workshops revealed the direct impact of spatial experience on spatial aspiration: across all groups the spatial aspirations were overtly related to the limitations imposed on the children.

Fig. 6.7.
Average daily journey of child from Sabra, 2024.



Fig. 6.8.
Average daily journey of child from Karantina, 2024.



Typical Activities after School
Average Route after School
Key Locations

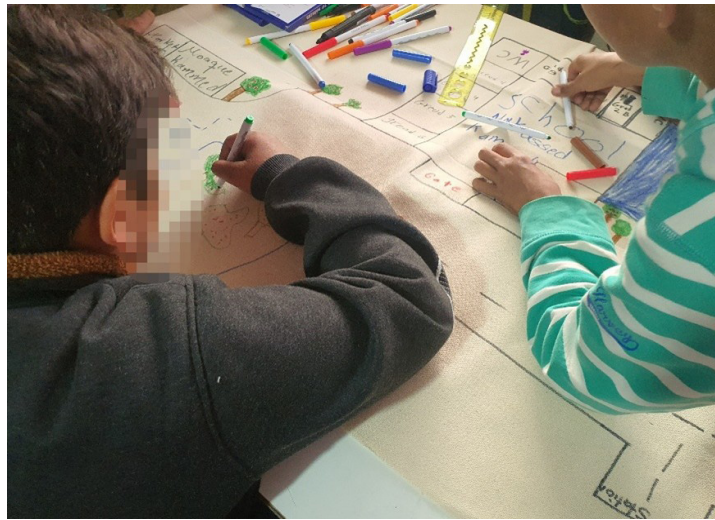
N
①

(Not to Scale)



Fig. 6.9.

Photograph from
Workshop 1, Sabra,
February 2023.



6.3.3 SAFETY

*For this subchapter please refer to **Appendix A - Portfolio Drawings: '6.2.1/3 Diversities & Safety'***

'Safety' can also be considered as an additional implicit Intangible Line. In both workshops and interviews, safety repeatedly emerged as a major concern in shaping children's urban experiences. While it may be considered an impact of other lines, it warrants its own classification due to its distinct and spatially mappable impact: we are able to map safe and unsafe spaces. Urban development literature concerning children often highlights safety as an essential consideration. In an article on *The Relationship Between Child and Urban Safety*, Tahir Emre Gencer and Dalma Karagoz surmise that the 'Child-friendly urban area is a space supporting physical and social development of children [...] In physical terms; children should like and feel safe in the urban spaces and in symbolic terms; urban design, planning and behaviours of adults should convey the message that children are an equal part of the society along with other individuals' (2017:211). Safety thus directly influences equitable city development and shared urban imaginaries.

In Karantina and Sabra, different public/private divides create differing safety expectations and parameters for children. In Sabra, a lack of child-friendly public spaces pushes children to play on residential streets, despite traffic hazards. While these streets are primarily residential, they are not pedestrianised. Several adults indicated that they might let their children visit a playground if there was one in the neighbourhood, even if it was not on their own street. One woman noted, 'If there was a place for them... yes, I would let them go. But... there is nothing' (Woman, 36, Sabra). A unique paradox emerges: it is 'unsafe' for the children of Sabra to play on streets that are not residentially their own; however, it is to a degree

acceptably 'safe' to play in the middle of traffic. One boy recounted a typical experience, stating, 'Our ball was popped by a car once... it's fun to dodge [cars]. It's funny when they beep at us' (Boy, 9, Sabra). When asked why they still played there, the response was 'If not here, then where?' Such responses illustrate how children's urban imaginaries are often grounded in pragmatic concerns, where aspirations for play and mobility emerge directly from the spatial limitations of their existing environments.

In Karantina, a child-friendly public park – the Karantina Public Park – was thoughtfully designed for the local community, particularly children. However, due to volatile local politics, it is often locked and inaccessible. Children therefore play in surrounding areas, including other child-oriented developments situated along pedestrian routes to keep them away from traffic. 'I'm sad I can't play in the park more... [when it's closed] they still let me play on the street [interventions] here and there sometimes' (Girl, 8, Karantina). This highlights contrasting safety perceptions: while Karantina has significantly less traffic than Sabra, traffic is still seen as the main concern. In Sabra, however, safety concerns are more rooted in public/private divides and social tensions: almost irrelevant in the context of spatial occupation for children in Karantina.

Drawing on the narratives of children and their parents, the Safety Line is mapped across both sites. While children may differ from adults in how they understand 'acts' of safety, their perception of 'locations' of safety tends to align with adult views. This suggests adult influence, as adults in conversation seemed to prioritise safe spaces over safe behaviours. In Sabra, safer zones are the peripheral streets, not the Sabra Market which is considered the neighbourhood centre. In Karantina, the area north of the public park is widely considered to be the neighbourhood's centre and it is perceived as the safest area. Despite being urban neighbourhoods, this contends that each area requires distinct strategies when safety is central to development efforts.

6.3.4 IMPLICIT INTANGIBLE LINE INTERACTIONS

*For this subchapter please refer to **Appendix A - Portfolio Drawings: '6.4 Intangible Lines: Interaction Consolidation'***

The three identified implicit Intangible Lines – Diversities, Experiential Radius, and Safety Lines – can all be observed to impact one another. Their individual forms are influenced by the existence of other implicit Intangible Lines, and when one line shifts so do the others with it.

Through the participatory processes in Sabra, it became apparent that the

foremost safety concern for parents regarding their children's presence in public space was an inability to identify others who belonged to their distinct micro-community. As discussed, these micro-communities are typically formed of individuals who belong to similar demographics, with race and religious ideologies being the primary categories. This apprehension of 'the other' implied a perceived lack of safety in locations within the wider Sabra neighbourhood that were less familiar to the participants in question. Consequently, this perception is observed to actively impact the radius of spatial experience available to individual children.

In Karantina, there is a meaningful illustration of how the shifting of these implicit Intangible Lines affects the others. Similar to the case in Sabra, the Diversities Line was much more pronounced, especially in the wake of the Syrian refugee crisis. A clear distinction has emerged between the Lebanese Muslim and Christian populations, as well as between the native population and refugees. Stemming from the massacres of Palestinians in 1976 (Civil Society Knowledge Centre, n.d.) – which was fuelled by racial tensions between Lebanese Christian Maronites and Palestinian militias – Karantina suffered many years of diversity divisions. Recently, with the influx of Syrian refugees to the area, it is understood that for a prolonged period 'they've largely received the Palestinian treatment' with some 'claiming their very presence endangered the fragile notion of Lebanese identity and fortitude' (Yaghi, 2017). However, following the Beirut Blast in 2020, these diversity lines began to dissolve. The impact of shared trauma caused a significant transformation in perceptions among different groups. Additionally, with many architectural rehabilitation initiatives actively engaging participants from diverse backgrounds – 'to ensure equitable participation and prevent potential tensions within the different community groups, the urban recovery team and the contractor made sure to select people from different families and across different nationalities' (Al-Harithy & Yassine, 2023) – people from different demographics became more comfortable with one another as they were placed in a position where they had to rely on one another. This has meant that in Karantina, safety concerns relative to those in Sabra have decreased, in turn causing the experiential radius to be positively altered.

6.4 INTANGIBLE LINES: INTERACTION CONSOLIDATION

*For this subchapter please refer to **Appendix A - Portfolio Drawings: '6.4 Intangible Lines: Interaction Consolidation'***

It is evident that although these lines have been classified as 'Intangible',

this classification stems from their lack of discernibility without the input of residents who can provide insight into the sociocultural contexts that have influenced their formation. These are lines that are likely to exist in every society; however, their forms and impacts on their localities will be highly distinctive. In saying this, these lines do present in certain physical ways. This is through what each the line permits regarding personal experience within the build-up of a place, or in the informing of urban planning or architectural decision-making processes.

The consolidation of all the Physical Lines enabled the impact of those lines on each other to be addressed and additionally, provided a means of documenting existing physical compositions of urban environments and identifying potential architectural goals for developmental intervention. Consolidating the Intangible Lines allows for the identification and analysis of shared urban struggles, that are impacted by social-cultural influences, and the discovery of the shared urban imaginaries which have resulted from this analysis.

An example of this impact of consolidation can be seen in the identification of potential locations which may be developed into possible child-friendly spaces, which may potentially ease the Safety Line in Sabra. This initiative could enable girls of a particular age to expand the scope of their experiential radius: an analytical outcome of the consolidation of the Age, Gender, Experiential Radius, and Safety Lines. The integration of these Intangible Lines would facilitate the development of urban interventions focused on exploring and understanding the social dynamics within a given space, rather than solely its structural aspects. This approach is particularly important for researchers and developers from diverse backgrounds, as social dynamics often significantly impact the utilisation and occupation of space. Therefore, without a situated understanding of these dynamics, structural urban proposals risk failure.

6.5 SUMMARY

This chapter has outlined a framework for recognising Intangible Lines to support the aim of the thesis to identify and analyse the ethnographic context and temporal narratives within the city. This methodology was designed to be a component of a lines-based mapping toolkit intended to pinpoint potential areas of social interest, particularly those related to the lived experience of the city. The subsequent analysis of these mappings is intended to reveal various shared urban imaginaries. While specific planning recommendations can be derived from the identification of the

Physical Lines present in an environment, it is through the CDC, that a greater level of situated insights may be established, as it incorporates the perspectives of residents.

Importantly, the participatory processes used to identify Intangible Lines must remain sensitive to local sociocultural practices. Factors such as honour, gender expectations, and neighbourhood familiarity shape how individuals engage with public space and therefore influence how they feel able to participate in research activities. As such, the toolkit outlined in Chapter 8 emphasises participatory methods that can be adapted to local cultural contexts, ensuring that community engagement processes reflect existing social dynamics rather than overlooking them.

'The[se] exclusions and misunderstandings of what children really need contribute to environments that favour adults over children, and can leave children feeling disempowered, discouraged, inactive and dependent on the adults around them.' (Wood, 2018)

These insights were directly incorporated into the *Transformative Lines Toolkit*, where participation is recognised as a context-dependent process rather than a neutral or universally applicable one. Instead, the toolkit embeds context-responsive facilitation strategies, such as working through trusted local intermediaries, structuring activities within socially acceptable groupings (e.g. gender or age-based), and anchoring discussions in familiar everyday spaces. In environments where concepts like honour influence visibility and engagement in public spaces, these adaptations are crucial for fostering genuine participation rather than mere symbolic inclusion.

The analysis of data derived from both the ADC and the CDC helped develop these lines-based topics, by which Beirut, Lebanon can concurrently be unified and divided. The identification of Intangible Lines therefore allows urban imaginaries to emerge from lived experience, revealing how residents conceptualise spatial change in response to the social dynamics that structure their everyday environments. Through the cross-sectional analysis of the Physical and Intangible Lines, shared local urban imaginaries can be detected, in addition to ideal locations for potential development for these outcomes of cross-sectional analysis referred to as 'Transformative Junctions'.

Socio-political paradigms have historically influenced the development of urban environments and our interactions within them. The identification of Intangible Lines demonstrates that children's experiences of the city are

structured not only by physical infrastructure but by complex sociocultural boundaries that remain largely invisible in conventional urban analysis. By revealing these hidden spatial dynamics, the lines-based methodology enables urban imaginaries to be grounded in lived experience rather than imposed planning assumptions.

These initial assessments of the topics that have emerged when dealing with both Physical Lines and Intangible Lines will be further examined in the following discussion chapter: Chapter 7 – ‘Transformative Junctions’. This chapter will examine how both these forms of lines can be used to identify points of potential development within cities, through hypothetical case studies based on the previously established lines discussions, driven by outputs produced by local demographics.

TRANSFORMATIVE JUNCTIONS

A Study of the Connections between Lines and the
Potential Opportunities They Might Present.

7.1 INTRODUCTION

This thesis was developed based on the practical application of architectural and collaborative mapping approaches. Through this process, supported by additional data collection techniques, the research developed a lines-based mapping methodology to address the study's original objectives.

The final component of the Lines framework concerns the potential transformation of urban space. While Physical Lines identify spatial structures and Intangible Lines reveal social dynamics, the interaction between these layers creates opportunities for intervention. The initial Objectives A and B resulted in the development of the Physical and Intangible Lines categories, enabling the mapping and analysis of both architectural and social components of the city. While these lines may be examined individually, deeper insights emerge through their cross-analysis.

These intersections are conceptualised in this thesis as Transformative Junctions: analytical moments where spatial and social insights converge to inform design strategies and participatory urban development. Physical and Intangible Lines do not operate independently; rather, their overlap reveals points of liminality where tensions, overlaps, and possibilities for change become visible. Within these moments, 'Transformative Junctions' may be identified as the specific sites where the cross-examination of different lines exposes potential areas of urban development discourse and where urban imaginaries emerging from lines-based analysis may be addressed.

The Transformative Junctions explored in this chapter therefore synthesise the findings of the previous chapters and contribute directly to the development of the toolkit. This is demonstrated through two hypothetical

site-based case studies, that demonstrate how the intersectional analysis of Physical and Intangible Lines informs potential development strategies for the neighbourhoods of Sabra and Karantina.

7.2 TRANSFORMATIVE JUNCTIONS

Independent *Transformative Lines* are not self-contained. They often rely on other lines to adapt, and in addition, we may find it beneficial to approach two or more lines as a spectrum rather than as distinct entities. Through careful analysis, a liminal position between two or more lines may be taken in the identification of shared urban struggles and aspirations. In this context, the word 'liminal' refers to the ambiguity inherent in being in-between states. Although these transitional conditions could be interpreted as their own distinct line, it is more effective to consider them along a spectrum, given the flowing nature of these positions

The following analysis identifies lines that are blurred in their distinctions. These lines often originate from alternate line categories, both the physical and intangible, due to the common intersections between the sociocultural and the architectural experiences of day-to-day life. Within this process of identification, this chapter will describe how these liminalities seem to have occurred and hypothesise, using contextual knowledge, how they may evolve with or without formal intervention.

While there are various terminological choices for describing urban intersections, the decision within this research is to coin as the term Transformative Junctions, derived from the power of linguistic imagery. 'Junction' here refers to when two or more elements cross or are joined. The methodological analysis of lines within this research requires the joining or crossing of distinct lines to identify urban development concerns. While 'Junctional Concern' may also have been a relevant term, the ambition for socially sustainable development favours positive, forward-moving language rather than negative, backward-looking terminology: 'Transformative' represents the potential for positive change and references the title of the wider theoretical approach.

Transformative Junctions act as analytical sites where spatial form and lived experience intersect. Unlike conventional mapping, which treats space as fixed and neutral, the lines-based methodology used in this research shows how urban space is continually reshaped through social practices, perceptions, and cultural norms. These junctions critically expose and analyse where physical infrastructure and social dynamics converge,

producing spatial inequalities, contested boundaries, and unrealised collective aspirations. By identifying these points, the Transformative Lines approach reframes mapping as a diagnostic tool for socially sustainable interventions and highlights development opportunities often overlooked by conventional planning.

The analysis here will be based on the Transformative Junctions between the following lines:

- The Structures Line and the Public/Private Line; the perceived social and observed structural edges between physical thresholds.
- The Routes Line and the Safety Line; the street as an 'appropriate' commonly used place location for children.
- The Green Line, the Boundaries Line; the implications for the lives of Beirut's inhabitants regarding the existence/lack of green spaces.
- The River Line and the Experiential Radius Line; waterways as a foundational attribute within cities.

These junctions are deliberately identified and analysed to foreground critical relationships between physical infrastructures and the social practices identified through the mapping process. Each junction is used analytically to interrogate how interactions between different lines structure underlying spatial dynamics within the city, including aspects such as informal governance of public spaces and contested access to environmental resources. By analysing these intersections, the research moves beyond the identification of individual spatial features and instead focuses on how their relationships shape everyday urban experience. In doing so, the Transformative Junctions offer a framework for interpreting locally specific spatial issues and translating them into potential development strategies.

7.2.1 STRUCTURES & PUBLIC/PRIVATE

*For this subchapter please refer to **Appendix A - Portfolio Drawings: '7.2.1 Structures & Public/Private'***

The concept of a Structures Line is identified as describing how structures delineate the physical border between the indoors and outdoors. Socially these lines create an architectural demarcation between the public and private realms. Furthermore, the concept of Public/Private as its own distinct line is significant, though it may be regarded as a nuanced aspect of the Structures Line. While the Public/Private Line can be a physical boundary, represented by the presence of a structural threshold, it may also be a social construct with no physical manifestation. Where one of

these lines ends and the other begins can be contentious; is there a space within the interior of a multi-resident building that is considered the line defining private space, or does it commence at the doorway externally?

In analysing the junction between of these two lines the analysis demonstrates that structural entry points signify the line between the public and private for those unacquainted with residents, particularly in residential settings. In this context, the Public/Private Line mirrors the Structures Line. However, from the perspective of a visitor who is already acquainted with the inhabitants, this line begins to shift. Social customs of hospitality, such as the cultural principle 'il beit baytak' [meaning 'My home is your home'], extends from an individual apartment into the broader physical environment of the building, and in some instances, into the street adjacent to it.

In a study of two buildings located in Sabra and Karantina, along with the corresponding streets in front of them, when addressing the Structures Line, the assumed Public/Private Line would be the perimeter of these buildings; or in the case of the Sabra structure, this perimeter from an architectural perspective would include the external staircase and porch. However, discussions with the residents revealed a prevalent sense of ownership regarding 'their portions' of the public street. This sense of ownership creates a third category: the semi-private/public.

In the semi-private/public areas, residents assumed a shared sense of responsibility for the maintenance and safety of these spaces. For instance, one resident in Sabra expressed her role, suggesting that she was the 'guard' of the street, because 'I am always here, I sit here [on the porch] and watch my neighbours and others come and go. They [neighbours] also come to me for coffee and to ask about goings on in the street' (Woman, 73, Sabra). A similar sentiment was echoed in Karantina: 'My mother makes me come out here to clean this play area. We live here [point to building next to us]. In a way this is our play area to care for' (Girl, 16, Sabra), indicating the communal investment felt by the daughter of a homeowner in the neighbourhood.

This junction highlights how architectural thresholds alone cannot fully define the boundaries between public and private space. Instead, these boundaries are actively negotiated through everyday social practices and cultural expectations. The emergence of a semi-private/public condition demonstrates how residents informally extend domestic responsibility into adjacent public space, effectively producing micro-territories of stewardship within the street. This observation challenges traditional

planning assumptions that treat public and private spaces as distinctly separated categories. Through the *Transformative Lines* approach, the junction between the Structures and Public/Private Lines reveals how lived experience reshapes spatial boundaries. These insights suggest that effective urban planning should account for informal patterns of ownership and social engagement.

It is important to establish here, that in architectural research conducted in locations foreign to the researcher, concepts of the Public/Private Line may not align with the constructs recognised in the researcher's country of residence. Consequently, engaging in conversations with locals is fundamental for accurately identifying where certain lines fall in relation to others. Throughout this thesis, the need for a local participatory approach to research is emphasised. While this may seem repetitive, it is this approach that can be credited for the findings presented.

7.2.2 ROUTES & SAFETY

*For this subchapter please refer to **Appendix A - Portfolio Drawings: '7.2.2 Routes & Safety'***

In the findings, the street served as a compelling site for enquiry. It represents the primary form of public space within both neighbourhoods, and the main paths can be seen to be consistently active throughout the day, accommodating various uses beyond just pedestrian traffic. This point introduces several critical spatial tensions. The street, despite the vigilant observations of its residents, is a space that remains essentially free to all. Except for Shatila and other formal refugee camps in Sabra, all public streets in Sabra and Karantina can be traversed by anyone. In a society comprised of very close-knit communities, such accessibility carries inherent risks.

In Sabra, there are several streets which are essential traffic routes within the wider district. This has been elaborated upon in the discussion of the Routes Line, in Chapter 5 – 'Physical Lines'. The significant volume of traffic poses a risk to the residents in the community, not only while walking, but also because community members tend to socialise on the streets – children included. Throughout my fieldwork, I was myself witness to several near accidents due to the lack of traffic control on these streets. This increased risk associated with these heavily used routes closely interacts with the Safety Line.

The main activity on each street in Sabra tends to change based on the

time of day, and because of this, so does the Safety Line. During peak traffic hours, there is less space available on the streets to use for socialising, as it becomes hazardous. In the mornings and around midday (before and after school), due to the increased presence of families, the Safety Line, specifically for women and children, expands. Conversely, at night, when businesses close and traffic lulls, men are more freely able to occupy areas in the streets for social interaction, benefiting from a sense of safety afforded by the night-time environment. This is not the case for every street though; some peripheral streets remain socially unsafe for women and children in Sabra, unless they are residents on the street in question. This appears to be driven less by documented incidents of harm than by culturally embedded perceptions of unfamiliar spaces, exacerbated by gender and age norms.



Fig. 7.1.
Sketch of children playing
on street, March 2023.

In Karantina, the interaction between these two lines is more stable in their relation to each other compared to other neighbourhoods. As an area that is not frequented by many individuals from other parts of the city, both the presence of heavy traffic and strangers are generally not a significant concern at most points throughout the day. While these lines do influence one another, their junction is not so liminal in comparison to what is observed in Sabra. These results validate the need for neighbourhoods to be studied individually – even if a proposal aims to tackle issues at the city scale – as each neighbourhood will have its own unique physical and intangible characteristics.

The intersection between the Routes and Safety Lines demonstrates that accessibility within the city is not solely determined by infrastructure but also by temporal and social conditions. The changing safety boundaries

observed in Sabra demonstrate how gender, age, and time of day affect perceptions of safety and how legitimate different groups find it to occupy public spaces. As a Transformative Junction, this relationship reveals that streets function simultaneously as circulation routes and social environments, where the balance between mobility and safety is constantly renegotiated. Recognising these dynamics enables the mapping process to identify specific spatial conditions where targeted design or policy interventions could enhance the daily experience of vulnerable users, particularly children and women.

7.2.3 GREEN (FOREST) & BOUNDARIES

*For this subchapter please refer to **Appendix A - Portfolio Drawings: '7.2.3 Green (Forest) & Boundaries'***

In the earlier analysis of the Forest Line, it was concluded that the title 'Green Line' was more appropriate in Beirut's current context, especially following the transformation of Horsh Beirut from a forest into a park. This Green Line includes not only Horsh Beirut but also other formal and informal green spaces throughout the city. Thus, the analysis was not limited to a historical study but enabled a focused examination within the selected sites of Sabra and Karantina. The Green Line encompasses spaces such as the rehabilitated Karantina Park, undeveloped construction sites, and green squares in Sabra.

This Green Line – particularly its parks – often faces use restrictions imposed by local governments, creating temporal boundaries to public access. The Green and Boundaries Lines become intertwined; any point along their junction is liminal. Even Horsh Beirut's boundary – the city's largest Green Line – is subject to fluctuations dependant on government decision-making. Before 2015, it was closed to the public for over 20 years, with limited permits for people aged over 35 (Wood, 2014); more recently, in 2024, public access was again revoked (Public Works Studio, 2024).

Across the city, green spaces are contested. In Karantina, despite redevelopment efforts, municipal regulations limit park access to a few hours per week, managed by specific organisations. In Sabra, previously public green spaces have been converted into commercial carparks, 'poached spaces' (Kanafani, 2017) which are ever present in the city due to the inability to regulate commercial practices. These 'poached spaces' are often public land acquired and privatised through political force by those who have connections to important political or social figures.

This junction between the Green and Boundaries Lines demonstrates a

critical issue: green amenities are not merely absent but actively restricted by political structures and this has profoundly impacted the lived experiences of Beirut's residents. Rather than focusing solely on initiatives to 'rewild the city' (Owens & Wolch, 2019) in new areas, it may be more effective to dismantle barriers limiting access to existing green spaces.

This junction exposes the scarcity of accessible green space in Beirut and indicates that it is not only a spatial issue but also a political one. The interaction between the Green and Boundaries Lines illustrates how governance structures and regulatory decisions can influence the availability of environmental resources within the city. Rather than representing green infrastructure as a purely physical absence, the Transformative Lines approach exposes how social and institutional boundaries shape residents' relationships with these spaces. As a result, the analysis indicates that improving access to green amenities may require institutional or policy reforms in addition to spatial design interventions.

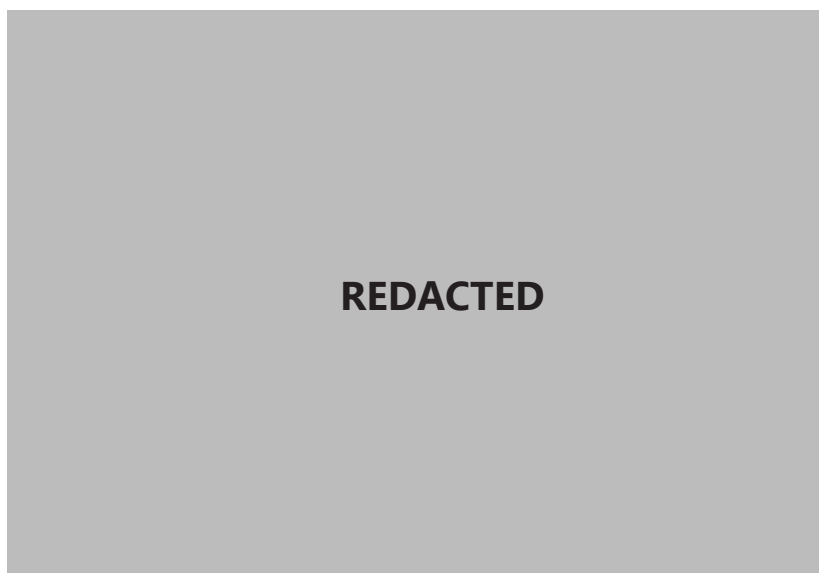


Fig. 7.2.

Photograph of 'poached' land used as a carpark, February, 2023. [Source: Masaad, S]

7.2.4 RIVER & EXPERIENTIAL RADIUS

For this subchapter please refer to **Appendix A - Portfolio Drawings: '7.2.4 River & Experiential Radius'**

'This? This you call a river?' (Woman, 47, Karantina).

Recalling this noteworthy quote from a resident of Karantina, the analysis in this section explores whether the River Line has any significant impact on other lines and whether their relationship can be described as a potential Transformative Junction. Upon re-evaluating the original findings

discussed in Chapter 5 – ‘Physical Lines’, the analysis demonstrates that the Beirut River has minimal general impact on the daily lives of the city’s residents. Their limited interaction with the line mainly consists of people travelling over it to enter and exit the city.

In interviews with Karantina residents and through mapping the daily routes and activities of neighbourhood children, it became evident that the River Line had little influence on their current experiences, despite the area’s proximity to the river. When examining the relationship between the River Line and the Experiential Radius Line, this connection is obscured by the river’s current state. The canalisation of the Beirut River has effectively removed it from the lived experience of nearby communities. This aligns with Christine Mady’s assertion that ‘an urban river and its ecosystem might connect or disconnect and interact partially or fully with the surrounding urban fabric, depending on its natural or modified morphology’ (2023:3). The junction between the River Line and the Experiential Radius Line thus becomes liminal – its potential influence suspended in time.

This is poignantly illustrated in a resident’s memory: ‘We used to always go [to the river] when I was young. I remember playing in the water. My parents were poor; they couldn’t take us anywhere else. They would get a watermelon and cool it in the river water’ (Woman, 78, Karantina). Such recollections reveal that the River Line once functioned as a crucial component of the experiential cityscape – a shared public space now erased. As Mady further explains, state-led modernisation efforts often ‘disregard environmental and social aspects’ and in doing so, ‘undermine’ ‘memories, practices, and experiences’ (2023:15).

This Transformative Junction between the River Line and the Experiential Radius Line is not a newly discovered phenomenon but rather an existing, albeit underacknowledged, component of the city’s collective memory and urban imaginary. In this instance, the *Transformative Lines* approach does not seek to reveal a hidden dynamic, but rather to reinforce and expand existing claims through contextual analysis and the inclusion of additional, community-derived data. The memories of older residents serve to highlight the significance of restoring meaningful, accessible urban ecologies in shaping future socially sustainable development.

The junction between the River Line and the Experiential Radius Line illustrates how infrastructural transformations can disconnect natural landscapes from everyday urban life. Although the river remains physically within the city, its canalisation has distanced it from the experiential geography of residents. The *Transformative Lines* approach reveals how

this disconnection has both environmental and social consequences, erasing spaces of collective memory and limiting opportunities for shared public experience. Recognising this junction redefines the river not merely as neglected infrastructure but as a valuable spatial asset whose reintegration into the urban fabric could enhance the experiential radius of surrounding communities.

7.2.5 LIMITATIONS OF TRANSFORMATIVE JUNCTION ANALYSIS

Taken collectively, the Transformative Junctions identified in this chapter reveal how spatial tensions and opportunities emerge through the interaction of physical infrastructure and everyday social practices. These junctions highlight recurring intersections where spatial design, governance, and lived experiences converge. By identifying these points of intersection, the *Transformative Lines* approach advances beyond simple mapping towards a diagnostic understanding of potential areas for urban intervention. Transformative Junctions therefore act as analytical points that translate participatory spatial knowledge into potential development strategies. The following section explores how these insights inform speculative development briefs responding to locally articulated urban imaginaries.

While the Transformative Junction framework offers a useful lens for interpreting relationships between Physical and Intangible Lines, it is important to acknowledge its limitations. The identification of junctions depends significantly on participatory data and qualitative analysis, which means that different researchers or community groups may identify alternative intersections or emphasise different spatial issues. Additionally, the findings presented in this chapter are closely tied to the specific sociocultural contexts of Sabra and Karantina. While the core principles of the *Transformative Lines* approach may be applicable to other urban settings, the junctions highlighted here should not be regarded as universally relevant. Finally, while the analysis suggests potential directions for spatial intervention, the hypothetical development briefs presented in the following section remain speculative and would require further technical, financial, and governance considerations before implementation.

7.3 LINES-BASED URBAN DEVELOPMENT BRIEFS

The objectives of this thesis extend beyond the use of mapping as a

methodological practice to support the discovery of different lines which form a city. They also encompass the unearthing of shared local urban imaginaries and aspirations, which may prompt meaningful changes within urban neighbourhoods. By employing the *Transformative Lines* approach, this research investigates how the intersections – Transformative Junctions – of these lines, derived from the collection and analysis of site-based data, can be harnessed to establish potential development briefs which address these imaginaries. In this context, Transformative Junctions serve as diagnostic indicators within the mapping process, emphasising spatial conditions where local aspirations, infrastructural challenges, and social practices intersect. The findings based on these Transformative Junctions are further enriched by research data gathered through CDC, including workshop outputs from focus groups and interviews with residents. The development briefs proposed in this chapter therefore emerge directly from the analysis of these junctions, translating interpretive mapping insights into speculative spatial strategies.

This section explores two hypothetical brief developments based at each of the research sites – Sabra and Karantina – influenced by the data produced and analysed through the *Transformative Lines* approach. The Sabra brief will address a neighbourhood scale intervention, while the Karantina brief will consider a wider city-scale intervention.

7.3.1 SABRA: A PLACE FOR CHILDREN

*For this subchapter please refer to **Appendix A - Portfolio Drawings: '7.3.1 Sabra: A Place for Children'***

As discussed throughout this thesis, there are very few public child-friendly spaces in Beirut, Lebanon – particularly in Sabra. Through surveys, interviews, and mapping workshops with children, streets often serve as the primary public areas for occasional socialising and recreation. However, access to even these spaces is limited. Factors such as age and gender heavily influence who feels entitled to use public space. Children and women are often deprioritised, and female children must contend with intersecting social restrictions.

In this section the right to public space in Sabra is considered and a potential development brief to address these issues is proposed, drawing on maps from the neighbourhood surveys and children's contributions in Workshop 1. These helped identify Physical and Intangible Lines in Sabra, highlighting where and when children are permitted to play and the sociocultural constraints they face. The Routes Line revealed that most play occurs along vehicle-dominated streets, lacking safety provisions – a

concern echoed by parents. For girls, the perceived risk is heightened by the presence of older boys and men.

To effectively implement the *Transformative Lines* approach, the shared urban imaginaries presented must also be examined, with additional considerations about potential sites and scale. Referring to Workshop 2, when envisioning their 'ideal' streets, three out of the four participatory groups in Sabra positioned outdoor play spaces either directly adjacent to schools, or somewhere between schools and residential buildings. Children explained this proximity would not disrupt parental routines and would offer a greater adult presence – teachers and parents – as assumed caretakers. Locating play spaces near schools thus aligns with children's aspirations and logistical feasibility, based on available undeveloped land.

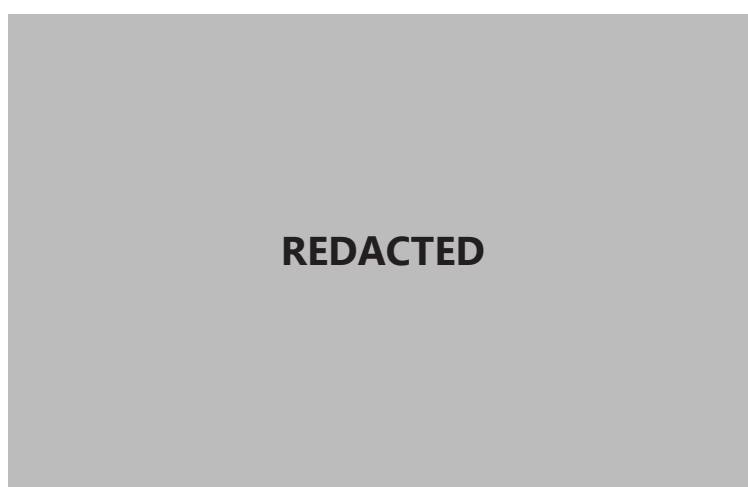


Fig. 7.3.
Photograph of proposed
site, Sabra, March 2023.
[Source: Masaad, S]

With social patterns, shared imaginaries, and potential sites established, a lines-based development brief can be proposed: a public social place for children, relatively near schools. An essential quality of this space should be adaptability. Initially, it may see limited use – before/after school and at weekends – until it gradually permeates the collective consciousness as a safe environment for parents to let their children play at other times. For this reason, its design should also promote use by women, who are key to enabling girls' access. Inclusive spaces like Karantina Park show that when women feel welcome, they are more inclined to permit their daughters to access a space.

In studying all the relevant lines, several potential sites emerged. The site chosen was closest to most schools and one that residents expressed a desire to see reintegrated into community life. This approach increases the likelihood of the hypothetical development succeeding, as it does not require a change in the children's current Experiential Radius Line.

Finally, regarding the potential design of the space, design features produced by the participatory design workshops with the children of the area were adopted. Initially Workshop 3 aimed to introduce the children to the process of participatory design. As such, the workshop was designed to facilitate the children to conceptualise an 'ideal space' from the children's perspectives. Components from their designs for a hypothetical space were utilised to acknowledge the input and preferences of the local children. For example, many groups imagined trampolines in their ideal space, so ground trampolines were embedded across the play area in various shapes. Additionally, collective seating was a requirement of nearly all groups; therefore, various forms of seating were included within the proposed design. To ensure all voices were heard – as many of the male groups chose to design football pitches – it seemed important to incorporate a small pitch. To address the adults' concerns about safety, it was proposed that this pitch be built at lower than ground level to ensure that children didn't accidentally run into traffic when following a ball.

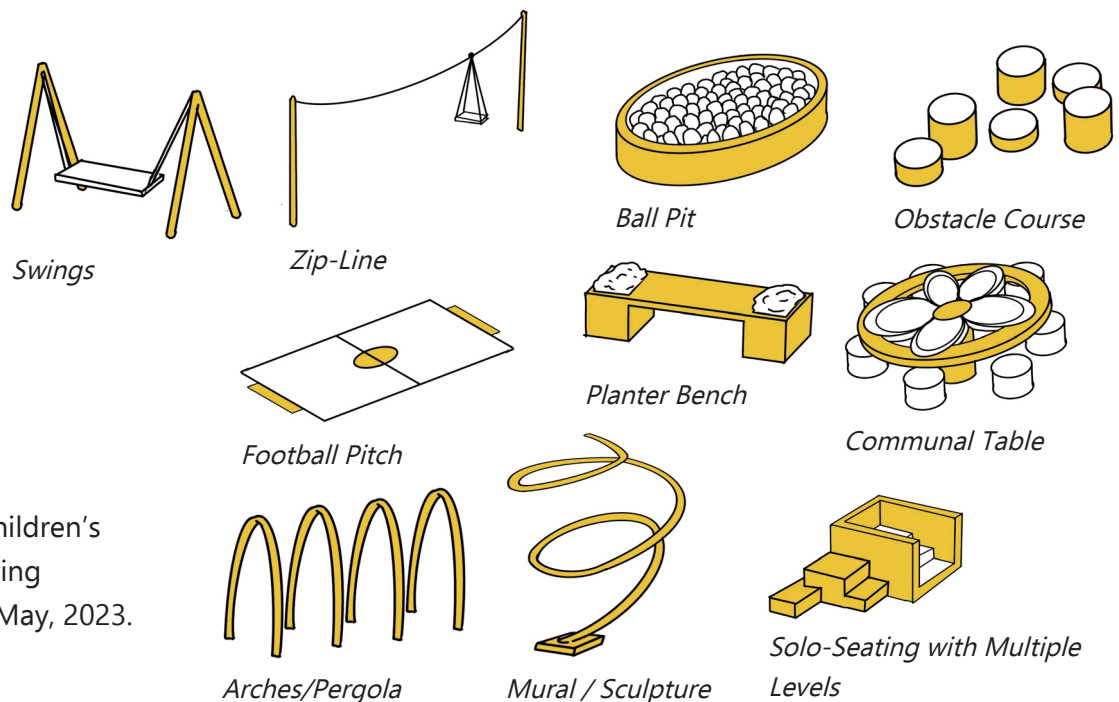


Fig. 7.4.
Sketches of children's
proposals during
Workshop 3, May, 2023.

7.3.2 KARANTINA: WIDENING THE RADIUS

For this subchapter please refer to **Appendix A - Portfolio Drawings: '7.3.2 Karantina: Widening the Radius'**

Karantina, Beirut is a rare example of a neighbourhood that has meaningfully engaged with participatory practices, including both adult and child-only initiatives. While child-friendly spaces could be a potential theme

for intervention, it may be redundant in Karantina's case, as several such spaces have been developed since the Beirut Blast. However, an emerging theme from the mapping of Physical and Intangible Lines – echoed by both children and adults – is the need to improve their Experiential Radius in relation to the wider city.

Although the *Transformative Lines* approach has focused on the neighbourhood scale, it acknowledges the city-scale importance of lines. Neighbourhoods in Beirut are distinct but interconnected; issues in one can impact another. Children in Karantina reported fragmented daily experiences across various parts of the city – commuting for school or accessing amenities – highlighting the city's broader infrastructural challenges. A critical component here is the Routes Line; especially when cross-referenced with waterways (Coast and River Lines), the analysis demonstrates that there are temporal impacts on accessibility within the neighbourhood. Seasonal flooding, caused by inadequate drainage, routinely disrupts movement – an issue identified in both Karantina and the wider city. This is a critical urban development issue identified in the Physical Lines mapping of Karantina and the wider city, and additionally, it is shown to significantly impact the experience of the residents of the city. The Physical Lines, Intangible Lines and Transformative Junctions are clear. There is a pressing need for a solution to the flood issues the city faces annually. Developing a city-wide urban development strategy would require significant time and finances; however, this might be slightly mitigated by prioritising the most affected neighbourhoods, such as Karantina.

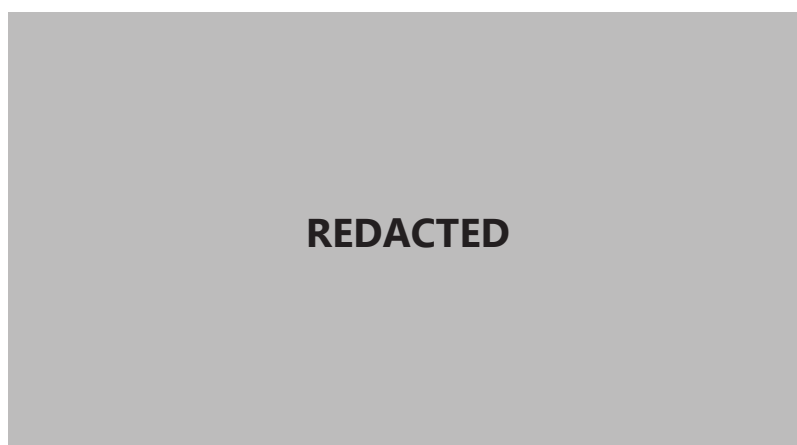


Fig. 7.5.
Photograph of proposed
site, Karantina, May 2023.
[Source: Masaad, S]

Karantina's location along the Beirut River offers an opportunity to integrate the River Line into a broader proposal. Structural flood mitigation strategies could include infrastructure upgrades, natural habitat integration (The Wildlife Trust, n.d.), and traffic improvements (Northern

Territory Government, n.d.). A hypothetical brief might involve renovating the Beirut Canal, creating a new sewer system along flood-prone routes, and building a water treatment facility aligned with national water reuse standards (LIBNOR, 2024).

Furthermore, the existing rewilding initiatives, such as the 2019 Beirut's RiverLESS Forest project by theOtherDada (theOtherDada, 2019), could help further mitigate the flood risks while also introducing new green lines within the city, along the river. The redevelopment and rewilding of the river may also constitute the creation of a riverwalk park. This would reestablish the River Line as part of the Experiential Radius Line of not just the locals but the wider city too. This hypothetical proposal would aim to address urban imaginaries articulated by populations in the neighbouring areas, such as Karantina, relating to the River Line.

7.4 SUMMARY

By analysing the liminal relationships between the Physical and Intangible Lines in the areas under investigation, this chapter identifies Transformative Junctions – points where spatial and social conditions intersect to reveal opportunities for urban development. These junctions expose how architectural elements interact with social constructs, highlighting spaces such as semi-private streets, contested green areas, and fading river memories. The case studies of Sabra and Karantina demonstrate how urban experience is shaped by evolving physical and cultural dynamics, emphasising the importance of local participation in identifying urban imaginaries and informing context-sensitive planning strategies.

Through this approach, mapping is reframed as both an analytical and participatory tool rather than a neutral form of spatial representation. In line with debates in critical cartography, which argue that maps reflect social and political perspectives (Crampton, 2001), the *Transformative Lines* methodology uses mapping to reveal relationships between spatial form and lived experience, translating these insights into opportunities for socially responsive urban development.

Beyond their descriptive and application-oriented functions, Transformative Junctions represent the primary intellectual contribution of this thesis. While the preceding sections demonstrate how these junctions are constructed through the analytical intersection of Physical and Intangible Lines, their significance lies in how they reframe mapping as an interpretive and relational practice rather than a neutral or purely

representational tool. In contrast to conventional top-down mapping approaches critiqued in the literature, which often abstract space from lived experience, Transformative Junctions make visible the socio-political and cultural dynamics that shape how space is accessed, negotiated, and understood in everyday life. In doing so, the *Transformative Lines* framework implements key insights from critical cartography by integrating them into a participatory, site-specific methodology.

The chapter has also presented two hypothetical development briefs informed by this analysis. In Sabra, the proposal focuses on a child-friendly public space near schools, developed through participatory workshops. In Karantina, the brief proposes infrastructural improvements to the Beirut River to address flooding and improve connectivity. Together, these proposals demonstrate how lines-based analysis can translate community imaginaries into potential development strategies that enhance urban experience.

This conceptual approach directly addresses the research question by demonstrating that lines-based mapping is not merely a method for documenting urban conditions but also a tool for generating new forms of spatial knowledge rooted in local experiences and urban imaginaries. The identification of Transformative Junctions therefore extends beyond speculative design prompts, instead offering an analytical mechanism through which spatial inequalities, informal practices, and latent opportunities for socially sustainable intervention can be systematically interpreted. However, this interpretive process is inherently dependent on the specific context, the nature of participation, and the researcher's positionality. Therefore, while the framework offers principles that can be applied across different settings, the particular junctions identified should be viewed as context-specific outcomes rather than universally applicable findings.

THE TOOLKIT

Transformative Lines: From Theoretical Approach to Practical Toolkit.

8.1 INTRODUCTION

One of the primary practical outcomes of this research is the *Transformative Lines Toolkit*, developed as an exploratory methodological guide and practical outcome derived from the mapping processes established within this study. The toolkit includes comprehensive details on the dual data collection strategy, as well as the approach to discovering and interrogating individual lines in a city. Furthermore, it acknowledges the choices site-based research may have to consider, as part of an adaptive methodological approach. Ultimately, it serves as a summative guide for the overall approaches employed in this research. This reiterates the framework of the *Transformative Lines* approach, and in doing so, details the process involved in compiling this toolkit. This chapter will explain the toolkit's structure, as defined by the *Transformative Lines* approach, and beyond this the associated processes of applying it.

Due to the volatile circumstances encountered during the research period in Beirut, Lebanon, the intended practical applications of the results derived from the *Transformative Lines* approach underwent significant changes. The previously planned applications will be addressed later in this chapter, outlining the reasons why these were not achieved and the adaptive choices made in response to these challenges. Additionally, this chapter will discuss how this resulted in a London-based exhibit and seminar titled *Transformative Lines: Exhibit & Seminar* hosted in January 2025, which was supported by guest speakers Joana Dabaj of CatalyticAction (one of my onsite facilitators, and Catalina Pollak Williamson of Public Interventions.

The *Transformative Lines Toolkit* is presented as a prototype guide for researchers interested in participatory mapping, but it should not be seen as a universally transferable methodology. It emerged from context-specific research in Beirut, particularly within the neighbourhoods of Sabra

and Karantina, and reflects their social, political, and spatial conditions. As such, the toolkit should be understood as an exploratory methodological prototype rather than a prescriptive framework. In participatory design literature, 'the prototype functions as a research archetype – a physical embodiment of research concepts or perspectives that have broad application, but also that require specific examples to demonstrate their potential and justify that they constitute a contribution' (Wensveen & Matthews, 2014:269). Within this framing, prototypes are open-ended outputs, adaptable and subject to reinterpretation rather than fixed. The *Transformative Lines Toolkit* adopts this approach, operating as a flexible methodological prototype that supports context-specific engagement rather than a standardised model.

Participatory mapping depends on local dynamics, trust, and ethical engagement with communities. As such, its applicability depends on careful reinterpretation in relation to local social, cultural, and political conditions, rather than direct methodological transfer. The toolkit is directly informed by the sociocultural dynamics identified through the analysis of Intangible Lines. In particular, locally embedded norms relating to honour, gender, age, and community familiarity were found to significantly shape how individuals – especially children – interact with public space and participatory processes. Therefore, participation is not treated as a neutral or universally applicable method but is understood as a culturally situated practice that must be adapted to the local social context.

8.2 THE TRANSFORMATIVE LINES APPROACH

Beyond designing a data collection strategy and mapping methodology to analyse architectural and social factors that shape a city, a primary objective of this research was the development of lines-based research toolkit, as part of a broader theoretical framework for urban development. The *Transformative Lines* approach, implemented through participatory practices, aims to generate actionable insights that may inform future urban interventions. The toolkit therefore serves as a documented reflection on the research methodologies developed throughout this study.

This chapter outlines the steps of the *Transformative Lines Toolkit*, beginning with desk-based research, moving through lines-based data collection, and culminating in the steps towards a lines-based urban development brief. The chapter also explores the potential application of the methodology in a different context: Athens, Greece. Previous research conducted there through ARCSR focused on Eleonas (2018) and

Fig. 8.1.
Transformative Lines
Toolkit cover, 2025.



Exarchia (2022). While this earlier research did not employ a line-based mapping approach, it did incorporate participatory practices and resulted in architecture and socio-cultural surveys, and micro-live builds. While these data are fundamentally less comprehensive than those obtained for Beirut, Lebanon, consideration of a new context is utilised to illustrate the logic of the toolkit rather than to validate its application.

Through the development of the *Transformative Lines* approach, this research contributes a methodological framework that bridges participatory practices with analytical mapping techniques in urban research. By introducing the conceptual categorisation of Physical Lines and Intangible Lines, the approach provides a structured means of interpreting both the spatial composition of urban environments and the lived experiences that shape collective urban imaginaries. Importantly, the methodology positions children as active contributors to urban knowledge production, challenging conventional planning and architectural research methods that often marginalise younger voices. While the toolkit itself remains an adaptable prototype, the underlying methodological contribution lies in demonstrating how participatory engagement, creative expression, and spatial analysis can be integrated into a cohesive mapping framework capable of revealing overlooked social and spatial relationships within cities.

8.2.1 THE TOOLKIT

*For this subchapter please refer to **Appendix B - The Transformative Lines Toolkit***

Having outlined the conceptual foundations of the *Transformative Lines* approach and its methodological contribution to participatory urban

research, the following section introduces the practical instrument through which this framework is operationalised: the *Transformative Lines Toolkit*. The toolkit translates the theoretical principles of identifying and analysing 'Lines' within urban environments into a structured guide for conducting research and organising participatory mapping processes. In doing so, it provides a practical structure through which the dual data collection strategies and analytical categories developed in this thesis can be applied within place-based research contexts. It is important to note that the toolkit was not devised in retrospect of the research, but rather concurrently, meaning that the design for both the research and toolkit operated in tandem.

As such, findings from the Collaborative Data Collection (CDC) show that participation in Sabra and Karantina is shaped by sociocultural norms. In response, the toolkit incorporates context-sensitive facilitation strategies, including:

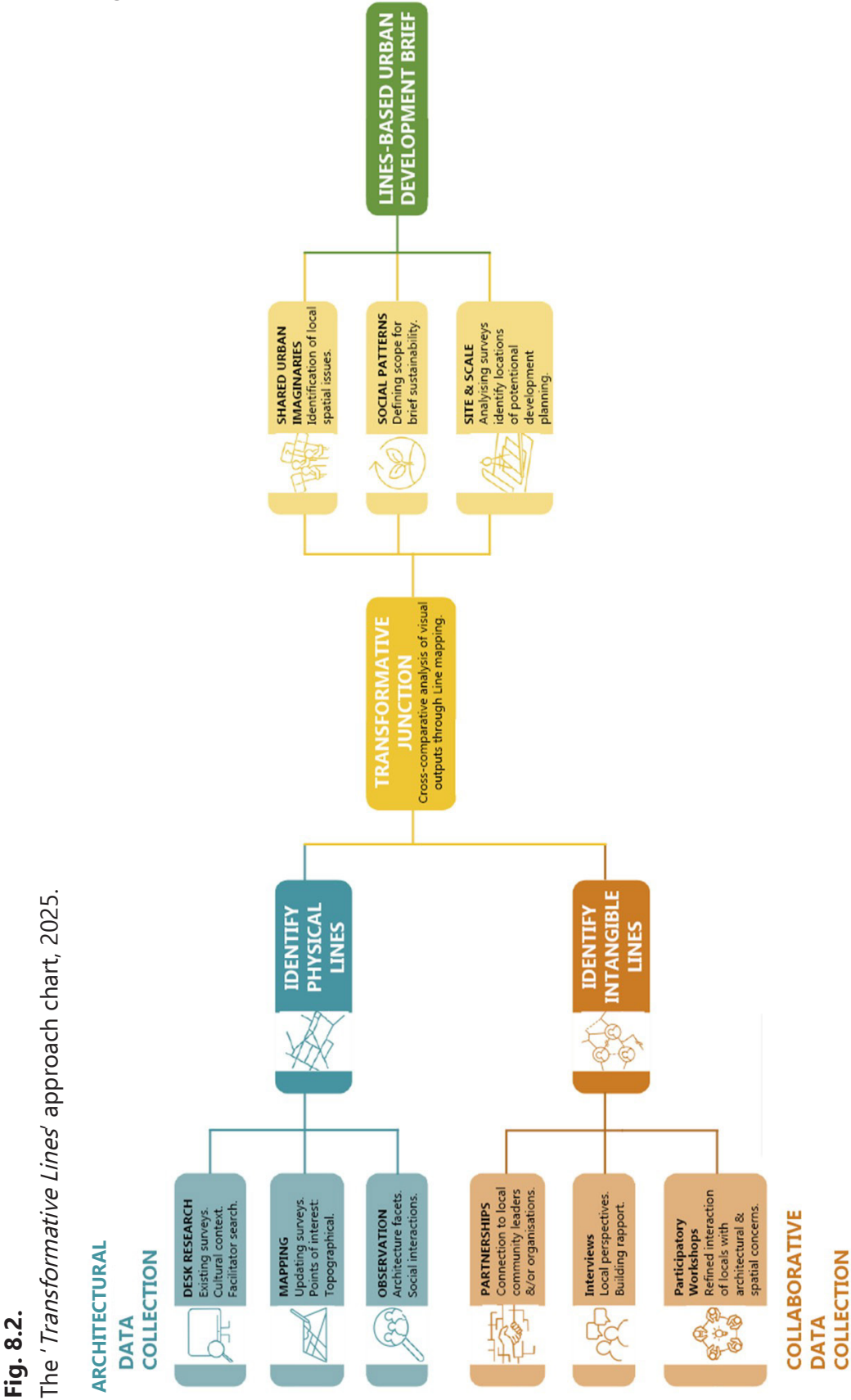
- Working through trusted local facilitators or community organisations.
- Structuring activities within socially appropriate groupings (e.g. age- or gender-based where necessary).
- Anchoring engagement in familiar, everyday spaces rather than abstract or unfamiliar sites.

The process of designing the research – and thus the toolkit – began by formulating strategies for the data collection to address the discoveries that needed to be made. Due to the alternate nature of the outcome topics of topographic and spatial contexts, and ethnographic and temporal narratives, it became clear that two distinct approaches would be effective. The first strategy would aim to gather data related to the physical compositions of urban environments, while the second strategy concentrated on obtaining insights through engagement with residents. This resulted in the dual data collection strategy: ADC and CDC.

At this stage, a systematic approach to categorising was assumed, presenting and analysing the data collected. In studying emergent mapping methodologies, as well as certain theoretical linguistic symbolism associated with the components of urban assemblies, 'Lines' were chosen as a thematic driver for map-making and analysis. Integrating this concept with the data collection strategies, Physical Lines and Intangible Lines were identified as two derived data types. The cross-referencing of these lines established the Transformative Junctions from which lines-based urban development briefs could be pursued, facilitating the identification

of common social urban patterns, shared urban imaginaries, and potential sites, scales and spatial programmes.

In summary the *Transformative Lines* approach as described in the toolkit is given below:



8.2.2 DESK CASE-STUDY IN ATHENS, GREECE

The Athens example presented here should be understood as an exploratory demonstration rather than a validation of the toolkit's broader applicability. Unlike the Beirut research, which involved extended place-based fieldwork and structured participatory workshops, the Athens material relies primarily on previously collected data and retrospective interpretation. For this reason, the exercise is intended to illustrate how the analytical logic of identifying 'Lines' may be applied conceptually in another setting. Meaningful implementation of the toolkit in Athens would require renewed participatory engagement with local communities and the generation of new site-specific data aligned with the methodological framework described earlier in this chapter.

The circumstance which allowed me to artificially implement this approach in another locality, Athens, Greece, was that one of my past research and participatory practices was based in Eleonas, a neighbourhood located in the west of the city. Eleonas is an industrial area and is recognised as one of the most disadvantaged neighbourhoods in Athens. It was formerly home to one of the largest open refugee camps in Europe – housing hundreds of refugees fleeing war or persecution. It has now been transformed into a divisive Closed Control Access Centre (CCAC) (I Have Rights, 2022).

Using previous research conducted in Eleonas, including maps and data produced for various master's projects, as well as insights obtained from impromptu participatory activities with community members, data were derived that could be analysed through the *Transformative Lines* approach. Through this, several significant Physical Lines can be identified in this neighbourhood: River, Agriculture, Contour, Structures, Pathways. Notably, Eleonas features an Agricultural Line that is not present in the context of Beirut. Every new site may reveal opportunities for discovering additional lines pertinent to the context of the study. By dedicating resources to research aligned with the *Transformative Lines* approach, it is also possible that new lines may be discovered or that existing lines recognised in prior projects may have evolved over time. This desk study looks to address the River Line, which encompasses the Kifissos River, which is a significant feature of the neighbourhood. The Kifissos River flows from north to south through the centre of Eleonas. In the context of the existing public collective narrative, it is already envisioned as a potential sight for development, with current government proposals aimed at re-excavating the river to enhance its water flow (Baboulas, 2019).

In relation to the Intangible Lines discussed in this thesis, it has been



Fig. 8.3.

Drawings depicting the Athenian River Line; The Kifissos river in Eleonas, Athens, 2018.

established throughout this thesis that these lines can only be identified through participatory research practices involving local communities. Specifically in the case of Eleonas, the findings presented here do not rely on the results of participatory practices carried out by other researchers. They are supported by first-hand knowledge produced during a research trip in 2018, where I, as a student, was part of a team that facilitated impromptu activities with children. These activities included a drawing workshop aimed at exploring the children's aspirations for their neighbourhoods, building planters for the Eleonas camp residents and additionally a local playground renovation with children and other residents as collaborators. Although the data gathered from these activities were not originally intended for the purpose of line identification, by analysing interviews and the activity outputs through the lens of Intangible Lines, topics significant for social concerns were identified. The Intangible Lines identified in this context encompass the lines: Public/Private, Diversities, and Experiential Radius.



Fig. 8.4.

Photograph of drawing activity with local children in Eleonas, Athens, October 2018.

In assessing the identified River Line and the Diversities Line, which highlights the divisions within the community between native Greek residents and the migrant population of the neighbourhood, an assumptive brief can be considered based on the need to establish diverse community bonds. In many of the participatory activities during the 2018 trip, it was noted that locals envisioned well-maintained outdoor spaces as integral elements of their shared urban imaginaries. And through the recollection of observations that residents in the community used to attend a Sunday market, with most using the River Line to get to this, the Kifissos River can be presumed as a potential site for achieving this through the identification of local patterns as pertaining to this significant Physical Line.

The proposed lines-based urban development brief may not necessarily entail the construction of a physical structure; alternatives could include organising a multicultural exhibition along the river for a weekend event or hosting a collaborative workshop focused on diversity within the community.

The analysis of two lines through desk-based research using previously collected data can generate multiple potential insights. However, it is important to acknowledge that this material was produced seven years ago, and its relevance to the current context would require reassessment. As such, the Athens example presented here should be understood as an exploratory demonstration of how the *Transformative Lines Toolkit* might be applied in different settings, rather than a real-world development brief.

Unlike the Beirut research, which involved sustained fieldwork and participatory workshops, the Athens material relies on retrospective interpretation of earlier data. This exercise therefore serves primarily to illustrate the methodological logic of identifying 'Lines'.

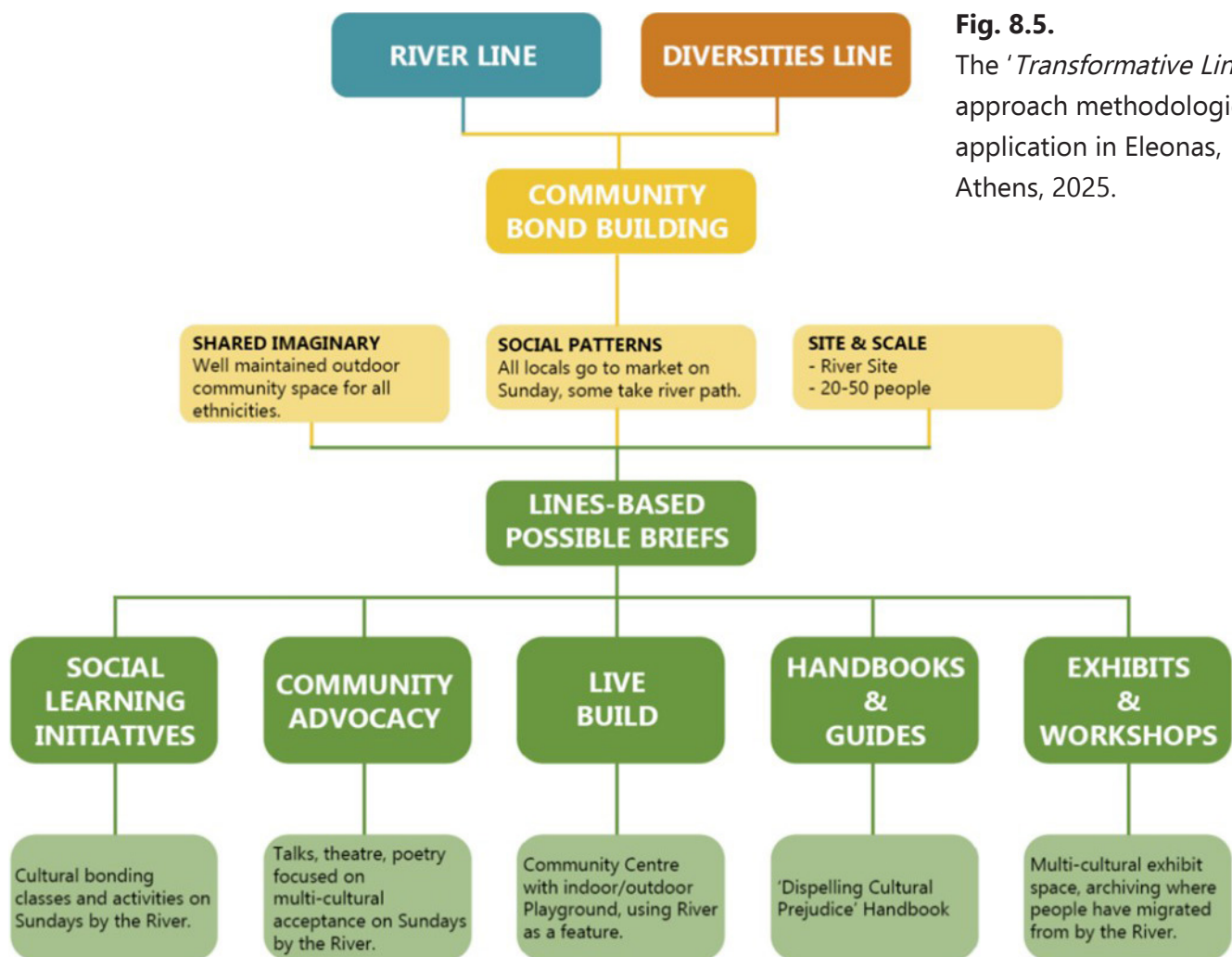


Fig. 8.5.

The 'Transformative Lines' approach methodological application in Eleonas, Athens, 2025.

8.2.3 PRACTICAL APPLICATIONS

Within the *Transformative Lines* approach lines-based briefs may not always present as collaborative structural builds. It might be established that other participatory responses may better suit the context and prevalent issue at hand. These briefs may fit the forms of:

- Social Learning Initiatives: to establish new attitudes to issues within the community without significant structural change.
- Community Advocacy Groups: creating a forum for local residents to discuss and tackle their joint aspirations.
- Participatory Live-Builds: designed through collaborative processes with community members, and either permanent or temporary, these may promote an environment which allows local craftspeople to be hired and other local participants to be educated on construction practices.
- Handbooks & Guides: as a literary reference in future development pursuits.
- Workshops & Exhibits: temporary events which either explore or present residents urban imaginaries through a collaborative process.

For the research in Sabra and Karantina, two different briefs were initially developed from the analysis of lines within each neighbourhood. In Karantina, due to many recent initiatives and the scale of the identified transformative junction, the practical outcome was planned as a collaborative exhibition rather than a live-build project. Curated with the child participants during a site-specific Workshop 4, the exhibition would have presented the children's workshop outputs alongside my own findings, including the conclusions of the *Karantina: Widening the Radius* case study.

In Sabra, discussions with community leaders led to tentative permission to build a temporary installation based on the *Sabra: A Place for Children* case study. Following community approval of the design, the intention was to build the installation collaboratively with child participants as part of Workshop 4.

Plans were in place to begin these activities in January 2024, but regional conflict made fieldwork unfeasible. Attempts to organise online workshops and a crowdsourced platform were also unsuccessful due to school closures and limited internet access. In response, the research adapted its methodology and culminated in the *Transformative Lines: Exhibit &*

Seminar in January 2025. This event replaced the planned live-builds, serving instead as a forum to situate the research within wider discussions on participatory urban practices and to test the articulation of the project's knowledge contribution.

8.2.4 LIMITATIONS OF THE TOOLKIT

Despite the structured format of the *Transformative Lines Toolkit*, its development revealed limitations in translating participatory research into a replicable methodological guide. The toolkit should therefore be understood as a methodological prototype rather than a definitive framework. This also highlights a recognition that the toolkit is not culturally neutral; its application in other contexts requires careful attention to locally specific social norms, including those that regulate visibility, interaction, and access to space. Its procedures emerged iteratively during the research process and were shaped by collaborations, spatial conditions, and ethical considerations encountered in Beirut.

A key challenge was developing a mapping approach capable of capturing the diversity of urban experiences. Participatory mapping relies heavily on locally situated knowledge, cultural practices, and relationships between researchers and communities. As a result, categories such as the 'Lines' used in this framework may manifest differently across contexts, and new lines may emerge that were not present in the original research. Attempting to standardise these processes risks oversimplifying the complex social and spatial dynamics that shape urban environments. This highlights a broader methodological limitation: participatory mapping – particularly when working with marginalised groups such as children – resists generalisation, as it is inherently shaped by context, relationships, and forms of expression that cannot be standardised without diminishing their meaning.

These challenges are particularly evident when working with children as participants. Children often express perspectives through non-verbal, creative, and situational forms of communication that do not easily translate into conventional analytical categories. Their participation also requires careful ethical considerations, including safeguarding, consent procedures, and the role of adult facilitators.

Through the development of the toolkit, an important methodological insight was that flexibility is essential to participatory urban research. More specifically, the process of designing the toolkit revealed that methodological frameworks in participatory urban research cannot be

fully predefined, but must instead evolve iteratively through engagement with participants, site-specific conditions, and unforeseen constraints encountered during fieldwork. Rather than prescribing fixed steps, the *Transformative Lines Toolkit* functions as a scaffold that encourages researchers to adapt its principles to local conditions, foregrounding situated knowledge and collaborative interpretation within urban mapping practices. As such, the toolkit's structured format should not be interpreted as methodological completeness, but rather as a partial and situated translation of a more fluid, relational, and adaptive research process.

As the research unfolded, methodological decisions were continuously influenced by relationships with community facilitators, the participation of children, and the rapidly changing conditions within the research context. In particular, the regional conflict that disrupted the planned live-build interventions required a reconsideration of how the research outcomes could be ethically and practically realised. Rather than treating these disruptions solely as limitations, they became part of the methodological learning process, reinforcing the importance of flexibility, responsiveness, and reflexive decision-making within participatory urban research.

8.3 THE TRANSFORMATIVE LINES APPROACH

*For this subchapter please refer to **Appendix D - The Transformative Exhibition and Seminar Report***

'Following on from place-based research pursued in Beirut, Lebanon, Hosn Houssami will presenting her findings relating to co-productive research techniques within the context of transitional migrant cities: Beirut, Athens and Freetown. With a focus on child-led participation - in the neighbourhoods of Sabra and Karantina, Beirut - Hosn's work looks to explore the hidden imaginaries that may not be a part of the articulated collective narrative. These findings will be considered through two distinct themes: 'Physical Lines', the physical composition and connections within neighbourhoods, and 'Intangible Lines', pertaining to the socio-cultural and political make-up of communities. It is through these 'Lines' that she will draw up the connections between these three cities but also express how this framework can be used in other contexts.' (London Metropolitan University, 2025)



Fig. 8.6.
Photograph from the
'*Transformative Lines
Seminar*' (2025). [Source:
Harris, C]

As described, this exhibit and seminar – while based in London and therefore located in a place where most of the contributors to the research could not be present – provided a platform to articulate the intentions and outcomes of my place-based research. The seminar, which acted as the setting to launch the exhibition, was attended by an audience composed of mostly architects, researchers and other creatives interested in participatory practices with children. The seminar was the first moment when my research, in its emerging finalised form, was subject to inquiry by those not familiar with either the topic or context. Reactions to the talk helped to substantiate the clarity of the research and underpin certain topics which had not been effectively conveyed.

Additionally, the scaffolding of my guest speakers – Joana Dabaj of CatalyticAction (one of my Karantina site facilitators) and Catalina Pollak Williamson of Public Interventions – who discussed their participatory projects in urban and rural localities, initiated a meaningful discussion in the panel Q&A, around the topics of bottom-up urban development and sustainability approaches related to the research projects presented.

By inviting not only my own facilitators but also other academics in fields of research pertaining to urban development, architecture, and participatory practices with local urban populations, the seminar served as a forum to explore the wider question posed by this thesis with an audience that may be well-versed in the literature in which the question is embedded:

Is it feasible to establish a new development framework which utilises map-making and the integration of a nonconventional categorisation of urban compositional features – both physical and intangible – as a methodological approach derived from place-based research results generated through participatory practices involving children?

The seminar audience actively participated in the discussion, posing insightful questions and offering thoughtful reflections on the question of the thesis. There was a clear consensus among attendees that the framework developed for the 'Transformative Lines' research project was both innovative and methodologically sound. Additionally, some attendees identified moments in the presentation that required some clarity, providing valuable feedback that directly informed and improved the subsequent editing of the toolkit.



Fig. 8.7.
Photograph from the
'Transformative Lines
Exhibit', guests engaging
in interactive collaborative
mapping, January 2025.

8.4 SUMMARY

This chapter has introduced the *Transformative Lines Toolkit* a central practical output of the research designed to guide urban development through a participatory, lines-based methodology. Developed alongside the research, the toolkit incorporates the dual data collection strategy and offers a framework for identifying and analysing both Physical

and Intangible urban 'Lines', with the aim of informing context-specific development briefs.

While the original fieldwork was based in Beirut, Lebanon, the chapter also presented a desk-based case study in Athens, Greece, exploring how elements of the toolkit may be interpreted in other contexts.

In relation to the central research question – whether a development framework could emerge from participatory mapping that integrates physical and intangible urban conditions – the *Transformative Lines Toolkit* represents an exploratory response rather than a definitive solution. Its development demonstrated both the potential and limitations of translating participatory research into a structured framework for urban analysis.

While identifying 'Lines' reveals relationships between spatial structures and lived experiences, the research also highlighted the need for methodological flexibility when working with diverse communities, particularly children. The toolkit therefore contributes to participatory urban research not as a universal model, but as an experimental framework that emphasises context-sensitive interpretation and collaborative knowledge production.

The chapter also detailed the curation of the *Transformative Lines: Exhibit & Seminar*, which launched the toolkit and presented the research to a broader audience. The event fostered critical engagement with the methodology, including discussions on bottom-up development. Audience feedback recognised the approach's novelty and offered insights that helped refine the toolkit.

The following chapter will conclude the thesis, reflecting on the conceptual development, practical applications, and theoretical contributions of the Transformative Lines approach, while reassessing the research objectives and methodological challenges encountered throughout the study.

CONCLUSION

Summarising the Transformative Lines Approach.

9.1 SUMMARY

This thesis set out to explore how mapping practices might be expanded through participatory research to better understand urban development possibilities in the city of Beirut, Lebanon. This was done through an in-depth exploration of the existing literature on mapping histories and techniques, drawing on the work of cartography critics such as Peter Barber and Frederik von Reumont, and addressing these critiques through the lens of social spatial domains and architectural theories, such as Kevin Lynch's elements for the 'image of a city'. This exploration of the literature

regarding mapping as a research tool, led to a review of writings and projects related to co-productive architectural practices and research with children in contexts such as Beirut. The findings from these reviews were summarised through the epistemological perspectives of decolonial research practices and the researcher standpoint as they related to site-based research and the considerations that may arise with this.

To understand the wider topics relevant to the thesis as they pertain to the research site, it was important to establish the context of Beirut, Lebanon and the two specific sites of Sabra and Karantina – historically, culturally and architecturally – and,

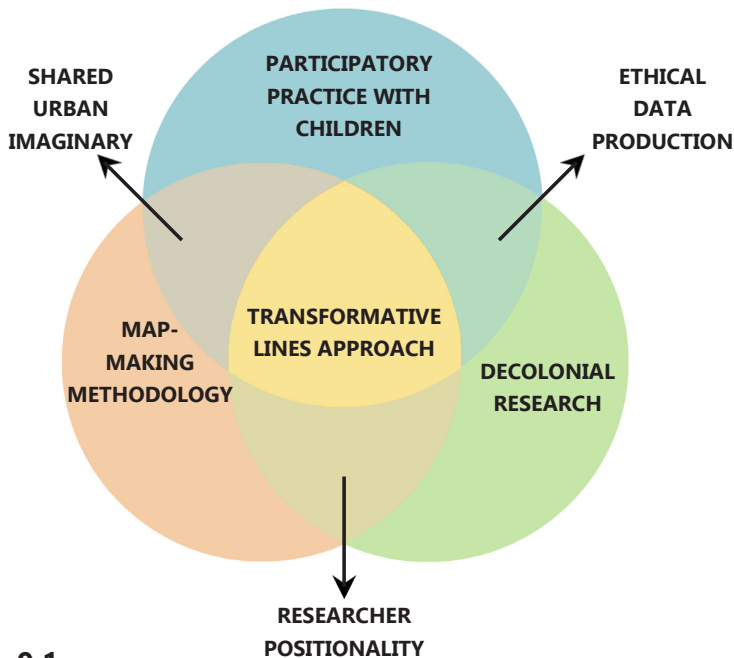


Fig. 9.1.
Intellectual context
intersect of
'Transformative Lines'
approach.
Venn diagram A.

additionally, to take into consideration research already pursued in these localities with similar themes. This process allowed me to identify where my positionality was in the existing literature, and how it contributes to the thematic or site-specific gaps of this position. This line of enquiry was designated as the *Transformative Lines* approach, named after the lines-based mapping methodology assumed for the production and analysis of the subsequent data collection.

Methodologically, the research combined architectural spatial analysis with participatory and ethnographic research methods. This was operationalised through a dual data collection strategy, which distinguished between:

- **Architectural Data Collection (ADC), involving researcher-led spatial documentation and mapping of the built and natural environment.**
- **Collaborative Data Collection (CDC), involving participatory workshops with children and interviews with community members.**

These datasets were analysed through a framework distinguishing between Physical Lines and Intangible Lines. Physical Lines refer to spatial and infrastructural elements of the urban environment, while Intangible Lines refer to sociocultural, experiential, and temporal dimensions of urban life. The use of this framework enabled different forms of knowledge about the city to be analysed together through a shared mapping methodology.

Fieldwork was conducted in two neighbourhoods in Beirut, Sabra and Karantina, chosen due to their distinct historical, cultural, and spatial characteristics. Through spatial surveys, participatory workshops with local children, and interviews with community residents, the research generated a range of physical and sociocultural data related to the experience and organisation of these neighbourhoods. The context challenges related to field research abroad in a volatile locality, namely Beirut, Lebanon; foundational to the framing of the whole methodological approach was an understanding of the need for it to be adaptive in nature to contend with the possible scenarios that may affect the study.

The analysis of these data identified intersections between Physical and Intangible Lines, referred to in the research as Transformative Junctions, through which potential urban development needs and spatial priorities could be interpreted. These intersections were explored through two case study applications at different scales: neighbourhood-scale exploration in Sabra and city-scale analysis in Karantina.

Through these case studies, the thesis directly responds to its central research question which focuses on how participatory mapping with children can reveal urban imaginaries that support socially sustainable development in rapidly changing urban contexts such as Beirut. The findings demonstrate that participatory mapping is not only capable of capturing both physical and sociocultural dimensions of urban space, but also of uncovering shared imaginaries that can inform context-sensitive development approaches.

The *Transformative Lines* approach designed for and pursued in the context of two urban settlements in Beirut, Lebanon was then standardised in the form of the *Transformative Line Toolkit*, a prototype mapping toolkit which may be utilised in other localities and that was formally introduced through an exhibit and seminar to other architectural peers, including one of my own research facilitators.

9.2 REVIEWING THE OBJECTIVES

The thesis was structured around a central research question and a series of sub-questions, which were operationalised through four key research objectives that guided the development and implementation of the methodology.

In reviewing these objectives, it is also possible to reflect on how each interacted with the sub-questions concerning the capture of physical and intangible urban dimensions, the ethical and methodological considerations of participatory research with children, and the role of mapping in revealing shared urban imaginaries.

9.2.1 OBJECTIVE A

To identify and represent, through mapping, the local topographic and spatial contexts: Physical Lines (features).

Through ADC, the research documented spatial conditions within the study sites using mapping and surveying techniques. Initially, the research considered a predefined set of natural Physical Lines – Contour, Coast, River and Forest – over the course of the fieldwork and surveying. As the study progressed, new information presented countered the viability of these specific lines in the project setting of Beirut, Lebanon. This process of discovery helped to establish an understanding of the adaptive quality of natural Physical Lines, promoting a review and subsequent expansions

of the four predefined lines. The 'Forest Line' was contextually adapted to the more applicable 'Green Line' as a consequence.

Additionally, research established the literary and historical understanding that human impact has not only adapted natural Physical Lines, and therefore the composition of the land, but also that construction and demolition has resulted in a different set of Physical Lines. The concept of human-made Physical Lines was developed as a subcategory and as an equal component to natural Physical Lines, to further assess the spatial composition of Beirut, Lebanon. The lines included in this subcategory were the Boundaries Line (relating to physical access) and the Structures Line (relating to buildings).

9.2.2 OBJECTIVE B

To identify and represent through mapping different ethnographic and temporal narratives: Intangible Lines (features).

Intangible Lines, as identified through CDC, was a lines category developed specifically for this research project's mapping approach, to aid in the representation of ethnographic and temporal narratives. These are often not physical in nature and the identification of these may be limited when investigated through architectural surveying practices alone. While these Intangible Lines may be manifest within physical spaces, they are primarily sociocultural and can only be thoroughly established through participatory practices with local populations. This Intangible Lines category included topics related to age, gender and the experiential radiuses of individuals with the city.

The mapping and analysis of Intangible Lines formed a bridge between the achievement of Objectives A and B, culminating in the success of Objective C. Through these processes, Intangible Lines revealed patterns of social interaction and lived experience that intersect with the physical organisation of the city but are not always visible through architectural analysis alone.

9.2.3 OBJECTIVE C

To identify and represent alternative potential urban imaginaries, that may not be apparent in the existing collective narrative, and shared aspirations at both the local and city scale for children as the primary participant group.

While outputs from CDC may have been individually investigated, relating these to the physical context they were situated in required a more analytical framework to discover the collective urban imaginaries. The framework developed for this thesis allowed for a simpler cross-analysis, as the representations were all subject to the lines-based mapping methodology, and thus could be analysed through this singular unique perspective: using line maps analysed over other line maps.

Importantly, the participatory workshops with children provided insights into urban experiences that differed from those expressed in adult interviews and architectural surveys. Children's mappings and narratives revealed alternative spatial priorities, including play spaces, perceived boundaries, and routes related to everyday movement. These perspectives contributed directly to identifying the shared urban imaginaries discussed in this thesis and demonstrate the methodological value of including children as active contributors to spatial research.

9.2.4 OBJECTIVE D

To develop a research mapping toolkit, utilising the concept of 'Lines' to categorise and analyse both the physical and intangible components of settlements, as part of a larger theoretical framework for city development.

The culmination and formulation of the methodology established for the achievement of the aforementioned objectives resulted in the development of a prototype lines-based research toolkit: the *Transformative Lines Toolkit*. The idea for this was conceived in the process of research design and was produced in tandem with the data collection and analysis.

The *Transformative Lines Toolkit* outlines the processes of identifying, categorising and analysing Physical and Intangible Lines and illustrates how these can be used to interpret urban environments through participatory research.

The application of the framework within Beirut provided the primary empirical basis for this toolkit. In addition, a small exploratory desk-based application in Athens demonstrated how existing spatial data might also be interpreted using the lines-based framework. This exercise served as an exploratory illustration of methodological adaptability rather than a full validation of the approach in other contexts.

9.3 IMPLICATIONS OF THE RESEARCH

The concept of a mapping toolkit is not by any means a new proposal – they have been produced and used in the sphere of architectural participatory development for many years, by organisations, governments and individuals. In saying this, this research project's innovation is in the development of its line-based framework, by which discovered data can be categorised and subsequently analysed.

The nonconventional categorisation of multifaceted elements of urban environments through Physical Lines and Intangible Lines is central to the contribution of the thesis. It expands the analytical boundaries of traditional urban planning and architectural research by incorporating both tangible spatial elements and less-visible sociocultural dynamics into a unified map-based methodology. This framework, the *Transformative Lines* approach, handles existing concepts within architectural research and restructures these within a map-making co-productive methodology for the purpose of supporting specific urban development discoveries related to the overlap of identified lines, a process designed for this thesis – Transformative Junctions – and their consequent employment to discover potential lines-based urban development briefs.

The *Transformative Lines* approach should therefore be understood primarily as a contextually developed methodological framework, designed through the specific socio-spatial conditions of Beirut and the participatory research conducted with children in Sabra and Karantina. Rather than proposing a universally applicable toolkit, this research demonstrates the potential value of a lines-based analytical framework for integrating architectural and sociocultural forms of spatial knowledge within participatory urban research.

The exploratory application of the approach in Beirut, alongside the desk-based exercise in Athens, illustrates how such a framework may be adapted to different contexts, though further research would be required to test its methodological robustness and ethical suitability in other urban settings. In relation to the literature discussed in Chapters 1 and 2, this research extends the existing work on participatory mapping and urban imaginaries by positioning mapping not only as a representational or consultative tool, but as a generative analytical method.

Furthermore, it contributes to child-inclusive participatory design discourse by demonstrating how children can engage in the co-production

of spatial knowledge through structured mapping practices, rather than solely through play-based or consultative activities.

In doing so, the Transformative Lines approach situates itself at the intersection of critical cartography, participatory urbanism, and decolonial research practices, offering a methodological contribution that responds to identified gaps within these fields.

9.4 LIMITATIONS AND FUTURE RESEARCH

The research process was significantly affected by external circumstances, specifically the escalation of regional conflict during the fieldwork period. These conditions reduced the time available for on-site research and prevented the completion of one of the original objectives of the study, which involved the construction of a small-scale temporary structure designed collaboratively with participating children.

While this objective was ultimately not realised, the adaptive methodological framework developed for the research allowed the project to continue despite these challenges. The experience highlighted the importance of methodological flexibility in place-based research conducted in politically and socially volatile contexts.

In the reflection of this entire research process, and in considering personal research intentions, this project may be expanded upon in three distinct ways:

1. One potential direction involves revisiting the research sites in Sabra and Karantina to further develop the participatory design components of the project. This could include the realisation of temporary spatial interventions developed through collaborative processes with local communities.
2. Further research could also apply the *Transformative Lines* approach to additional neighbourhoods within Beirut to build a broader understanding of how physical and sociocultural lines intersect across the city.
3. In addition, the *Transformative Lines Toolkit* may be tested in other urban contexts to explore how lines-based mapping methodologies can be adapted to different spatial and cultural environments.

9.5 CONCLUDING REMARKS

This thesis set out to explore how participatory mapping practices with children might inform architectural understandings of urban space in Beirut. Through the development and testing of the *Transformative Lines* approach, the research demonstrates that combining architectural mapping with participatory and ethnographic insights can reveal spatial relationships that are not visible through conventional urban analysis alone.

In particular, the integration of Physical Lines and Intangible Lines enabled a layered understanding of the city in which spatial form, lived experience, and collective urban imaginaries could be analysed together.

Grounded in place-based, participatory practices with children, the *Transformative Lines* approach contributes a methodological perspective to ongoing discussions within participatory urban research and architectural mapping practices. By integrating spatial analysis with participatory knowledge production, the framework offers one possible way of examining how physical environments and social experiences intersect within urban contexts. The thesis establishes a new urban development framework and prototype toolkit that integrate map-making with a nonconventional categorisation of both physical and intangible urban features. It does not diminish the value of other approaches but rather adds a new perspective to an abundant discourse.

In summary, the primary contribution of this research lies in the development and testing of the *Transformative Lines* approach, a participatory mapping methodology that integrates architectural spatial analysis with socially derived knowledge of urban space. By categorising urban elements as Physical and Intangible Lines and analysing their intersections, the research demonstrates how participatory mapping practices can reveal spatial relationships and urban imaginaries that remain underrepresented in conventional planning and architectural analysis.

While the approach was developed within the specific context of Beirut, the framework contributes to broader discussions within architectural and urban research concerning the role of participatory methods, ethical knowledge production, and the representation of lived spatial experience.

Ultimately, the research illustrates how mapping can function not only as a representational tool, but also as a means of bringing together multiple

forms of knowledge about the city, enabling new ways to understand and imagine urban space.

In doing so, it provides a direct response to the research questions by demonstrating how participatory mapping with children can reveal urban imaginaries and support socially sustainable urban development.

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