

# **Building Peace In Mosul**

A propulsion system for returnees





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**MASTER THESIS**

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Di queste case  
non è rimasto  
che qualche  
brandello di muro

Di tanti  
che mi corrispondevano  
non è rimasto  
neppure tanto

Ma nel cuore  
nessuna croce manca

È il mio cuore  
il paese più straziato

*San Martino del Carso*  
Giuseppe Ungaretti  
Porto sepolto, 1916



*To my brother*

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## Foreword

Since the beginning of my university career I have been fascinated by that type of architecture that removes its superfluous superstructures to show itself in its primitive meaning: ensuring the survival of human beings. This topic led me to explore architecture in so-called extreme situations or to investigate his face and his potential in those places that are unsuitable and dangerous for human life. If my interest was initially concentrated in places whose climatic and territorial conditions prevented human colonization, I then approached a type of emergency architecture in areas affected by a natural disaster or conflict.

In the latter case, the Mosul Postwar Camp (*Archstorming*, 2017) is a competition of ideas that I have been interested in together with Caterina Giacomello, a student of International Sciences specialized in today's socio-political situation of Middle Eastern conflicts. The competition required the design of a camp on the outskirts of Mosul that could house internally displaced people who started returning to the city following the end of the conflict. For reasons of time we have not been able to participate in the competition, but we have nevertheless decided to conclude our respective master's degrees with theses that develop the topic proposed by the competition. The two works together conceive a project that aims to support the disintegrated and mutilated population of the Mosul war, with the awareness of the complexity of the situation in which it is inserted.

But why choose to explore the role of architecture in a conflictual or post-conflictual context?





Iraqi special forces soldiers washed and dressed a small boy who  
had been carried out of an area under ISIS control.

*Ivor Prickett, 2017*

The reasons are essentially four:

1. As previously mentioned, a war-torn territory becomes an extreme place for the survival of its inhabitants. However, in every urban reality, we can find situations of conflict, where millions of people live in conditions of poverty or insecurity on the verge of survival. For this reason, a post-war project can provide answers to a multitude of more common and global cases (*Project for Public Spaces*, 2012).

2. The consequences of a conflict are not limited to the affected area, but indirectly influence much of the world. Just think of the refugees who, fleeing the war, decide to cross the Mediterranean Sea and how their presence in Europe becomes a political issue.

3. The United Nations indicates that 50% of countries affected by war tend to fall into new situations of instability and violence within 5 years (*Sucuoglu et al.*, 2016). For such an eventuality to be avoided, architecture cannot ignore its fundamental role within the pecebuilding and reconstruction processes of cities.

4. An ever-increasing number of cities are acquiring a multicultural character, while a wave of racism, nationalism, and violations of human rights is being nurtured. If adequate measures are not taken as soon as possible, initial tensions could divide cities and lead to new violent conflicts (*Junne*, 2010). An architecture born of the need to respond to the consequences of war can have preventive value in other contexts, to guarantee sustainable global peace, or even an increase in the sense of belonging and cohesion within the communities (*Sucuoglu et al.*, 2016).

Finally, the case of Mosul appears particularly suitable for the development of these themes: the peaceful coexistence of a population to guarantee the survival of individuals is one of the basic axioms of the birth of civil society, and Iraq, together with

Syria, rises in the territory which was once named Mesopotamia, the cradle of civilization. Here the first civilizations were born and prospered. Here some of the basic rules of human coexistence were first formulated (*Nissen et al., 2009*).

# *Introduction*

The recent Iraqi conflicts, culminating with the events that devastated the country from 2014 to 2017, have deep roots. The hidden interests behind these fratricidal wars are evident and proven, yet it is impossible not to consider that the official causes are attributed to the ethnic-religious composition of Iraqi society. Likewise, the effects they have had on minorities and the dynamics occurring between social groups are tangible and incredibly dangerous for the Iraqi future.

All this is even more serious if we consider that Iraq made diversity its constitutive figure and that the interaction between peoples has characterized its territory since immemorial time.

Immigration in Mesopotamia has a very ancient history: with a certain regularity, new groups have always arrived, often with totally different ethnic origins. Whether they came as conquerors or as immigrants, they ended up gradually mixing with the native population to form a melting pot of cultures already at the time of the birth of the first human societies. This was due to the geographical conformation of the “Two rivers Valley” where, unlike the Nile’s one, there are no natural boundaries that can prevent migration flows. It is no coincidence that Iraq, and in particular the city of Mosul, cut part of the Silk Road, becoming a very important link between the East and the West. The very name of Mosul, in Arabic *Al-Maw-sil*, means in fact “connection point” or “city of the conjunction” (*Nissen et al.*, 2009).

How can it be possible, therefore, that right here the relations between neighbors, people who did not belong to the same religious belief, or the same ethnic group, but shared the same roads, the same markets, the same schools, resulted in a devastating and murderous war?

Decades of insecurity and ethnic and religious conflicts have shaped the demography of Mosul, as well as irreparably undermined the functionality of its local administrations, public institutions,

and economy.

Since the collapse of the dictatorial regime of Saddam Hussein, in 2003, Iraq and the city of Mosul have experienced a growing wave of violence and extremism, which reached its peak in June 2014, when the so-called Islamic State, or ISIS, took control of the city.

The situation, which was already dramatic, was further exacerbated under the control of armed militias. The economy has almost completely collapsed, both because of the new administration and strategic operations designed to stimulate the rejection of the population. Infrastructures and services have ceased to function, as have public institutions. The persecutions against ethnic minorities have led to a massive wave of displaced people, adding large numbers to IDPs derived from the decades of previous wars. Moreover, the cultural and historical heritage has become the goal of devastating “urbicide” aimed at mutilating the identity of persecuted populations. Those who have decided to stay in the city have almost completely lost access to basic services, such as food and water (*UN-Habitat* 2016).

However, the worst military operations started in October 2016 led to a huge new exodus of the citizens of Mosul.

Initially, the offensive of the Iraqi army, supported by a coalition of foreign nations, rejected extremist militias in the eastern part of the city, with a limited number of damages to the urban fabric. The battle intensified when the remaining ISIS forces barricaded themselves on the west side of the city, particularly within the historical center. In this second phase of the war, the joint action of ISIS mortars and kamikazes, together with the air raids of the allied forces, unimaginably ravaged the city. In July 2017, the Iraqi government declared the end of the war and ISIS in Mosul, although many still think that the rapid conclusion of the battle is attributable more to a retreat of extremist militias, rather than an actual defeat (*IOM et al.* , 2017a).

In the aftermath of the war, life began to fade slowly through the destroyed streets of the city, and thousands of displaced people have begun to return independently to their homes, which, more often than not, appear as piles of rubble. It is precisely in this context that the architectural system designed in this thesis is implanted, which is a place that hosts IDPs (Internal Displaced People) returning to Mosul and works as a support to the population in the long term.

In fact, the goal pursued is to achieve a lasting peace that is not easy to pursue given the conditions in which the city is located. An incalculable amount of work and economic effort must be used to rebuild houses, public buildings, and infrastructures, as well as restore essential services, such as water and electricity, to reestablish habitable conditions (*Human Appeal*, 2018). The city is largely razed to the ground, and among the destroyed buildings, partly due to the “urbicidal” strategy of ISIS, partly as a side effect of the war, many are included in the architectural and cultural heritage. This constitutes an irreparable wound not only for the Iraqi identity but for the whole human civilization. Thousands of people have died, and many bodies are still submerged by the rubble, one of the most urgent problems of the post-war situation.

The Mosul society has appeared disintegrated and mutilated after the war. Almost every surviving person has at least one relative or friend killed. As happens in every situation typical of areas affected by conflict, schools and hospitals are destroyed, and also the education and health systems. Agricultural activities are interrupted, food and job opportunities are scarce, increasing poverty and misery. Poor hygiene conditions lead to the risk of epidemics and more deaths. All this can only fuel the situation of instability, exacerbating internal conflicts, highlighting discrimination, procuring crime and new violence (*Sucuoglu et al.*, 2016).

In the specific case of Mosul, the fear of a return of ISIS is very high. The rapid conclusion of the

conflict cannot exclude that some sleeping cells are still present and hidden within the population. This creates very serious problems of insecurity and distrust in others, constituting one of the major obstacles to the rehabilitation of a peaceful cohesion. Moreover, the measures adopted by the government on this point often further worsen the situation: kidnappings, torture, quick and unclear trials are the normality, based on superficial methodologies that often make it impossible to understand the actual guilt of the defendant. The loss of thousands of identification and ownership documents fuel the chaos. This obviously leads to further growth of fear and anger towards the government. Finally, the so-called “Daesh families”, groups constituted by children and wives of extremist militiamen, have gone from being the families of the oppressors to the oppressed ones. The hostility of the citizens has poured on them, through public disfigurement and marks of recognition. Also, the government prevents mothers from working and their children from attending school, reducing even those few opportunities that would allow them to be reintegrated into society (*Mannocchi, 2018*).

The inability to interrupt this vicious self-sustaining cycle of death, hatred, and misery, could only transform the risk of a relapse into war into a certainty.

It is in this context that the internally displaced persons' emergency becomes the issue of returnees, those who want to return to their homes. This segment of the population appears to be the most at risk since it has to face not only the devastating situation we have just seen emerging in Mosul but also their status as displaced persons. It is no coincidence that we have a definition of IDPs (Internally Displaced People), but not a clear idea of when one stops being an internally displaced person. The IDPs are people, or groups of people, who have been pushed or forced to flee their homes and have not crossed an internationally recognized state border (*OCHA, 2001*). This is a traumatic experience that has significant negative

repercussions on the physical and psychological stability of the displaced person, which passes from a condition of subsistence to one of mere survival. Many inhabitants of Mosul suddenly found themselves without a home, without a job, forced to escape to places where they cannot even rely on the affection of their community. This combination of housing, food, health, identity, and social insecurity has repercussions on the self-perception and stability of the individual, repercussions that leave their mark and do not end with the simple return to the place of origin, if and when possible. A particularly exacerbated threat among women, children, the elderly and the sick or handicapped and in general all those who encounter forms of discrimination every day, marginalizing them further or excluding them from assistance.

These premises are enough to understand how delicate the subject is and the fact that it is not so obvious to face its problems. For this reason, before imagining an internal project in a fragile context like the Mosul one in the aftermath of the civil war and for a user as vulnerable as that of the IDPs, the work carried out by Caterina in her dissertation is essential. (*Giacomello, 2019*). However, considering the two works as part of a single final project, I refer to Caterina's thesis regarding the potential of an architectural project in a peacebuilding process and above all an understanding of the experiences and obstacles facing the IDPs of Mosul, who are the subject for whom this study is developed.

However, I would like to report some results of her research so that some premises are clear. First of all, that the vast majority of internally displaced persons want to return to their place of origin, despite the war and the tragedies experienced. They feel homesick and want to return to their houses and their community. This is considered fundamental for the recovery of stability. Secondly, that the problem of IDPs is not resolved by simply allowing them to return, but it is necessary to provide them with durable solutions, na-



mely to restore human rights, including security, property, housing, education, health, sustenance, but also rights to reparation, to justice and to the truth.

Thirdly, any post-war project must take into account the particularities of the context, avoiding “one-size-fits-all” approaches, and prioritize ownership and local leadership in designing a peace-building strategy to propose solutions inclusive, with a broad base and focused on people.

After this introduction, I decided to insert a photographic reportage as a testimony of what remains of Mosul following the occupation of Daesh and the war for its reconquest by the Iraqi government. A Mosul that from the end of the fighting slowly begins to repopulate, despite the levels of devastation and fear. The number of photos is intentionally redundant because I would like to exclude myself for a moment from this filtering role and allow the reader to understand the level of destruction of what is one of the oldest cities in human history and the desolation of its inhabitants.



An Iraqi federal police officer in the Old City of west Mosul.  
*Ivor Pricket, 2017*







Volunteers collected bodies in the district where the militants made their last stand.

*Ivor Pricket, 2018*







'They're right behind the yellow car'. 120 meters away ISIS and special forces units exchanges fire.

*Rasmus Flindt Pedersen, 2016*







An Iraqi man walks outside Mosul's University.  
*Dimitar Dilkoff, 2017*







A resident looks over destroyed buildings from his home in Mosul's Shifa neighborhood.

*Victor J. Blue, 2018*







Shop owner Abu Azar sits outside a destroyed bazaar in the Old City of Mosul, Iraq.  
*Felipe Dana, 2018*







Kasim Yahya Ali Hussein, 75, is an Iraq-Iran war veteran who lost his home during the massive Iraqi operation to retake Mosul.

*Felipe Paiva, 2018*





Construction workers stand atop damaged buildings and shops in the Old City of Mosul.  
*Felipe Dana, 2017*







Civilian deaths in the west of Mosul could be as high as 5,000, a local politician said.

*Felipe Dana, 2018*







Civilians who had remained in west Mosul after the battle to take the city line up for aid in the Mamun neighbourhood.

*Ivor Pricket, 2017*



# 1. Definition

*In this chapter, the basics of the research work are fixed. First, the question and the objectives set by the thesis are explained. Secondly, the methodological problem related to the risks of designing in such a delicate context is addressed, in particular considering the discrepancy between the architect's background and that of the users to whom the project is dedicated. It is shown that in many cases an architectural project can be inconsistent, or even harmful, if not related to a real awareness of the risks and the consequent deepening. Therefore the methodological choices made to avoid the risk mentioned above are declared. The basic features of the brief of the "Mosul Postwar Camp" contest, used as a programmatic basis for the composition of the project, are subsequently reported.*



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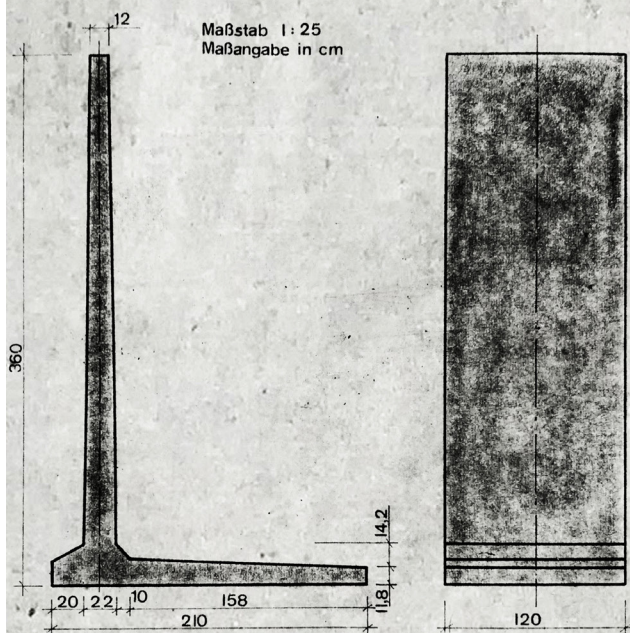
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### Techn. Angaben

1. Material : Stahlbeton B 300
2. Gewicht :  $\approx 2,75 \text{ Mp}$
3. Preis : 359,-
4. Stück/km: 834

Prefabricated concrete element used for the Berlin Wall.  
Source: T. Deutinger, *Handbook of Tyranny*, Lars Müller Publisher, 2018

### ***1.1 Research objectives: the role of the architect in a peacebuilding process***

Most of the historical buildings visible today within our cities are leftovers derived from a “war architecture”, in particular fortresses and city walls, designed to defend, but also to impress and intimidate. Therefore, the political role of architecture in conflict processes has been demonstrated and recognized since time immemorial, it has always served power for objectives of submission and control. However, another question is emerging on the international scene recently, the same one the project is trying to answer in the specific case of the post-war situation in Mosul: architecture can change the role and contribute to emancipation, unification, to the empowerment and peaceful interaction of people? (*Junne, 2010*)

In other words, can architectural design play a part in peacebuilding processes, both in post-conflict situations and in the prevention of urban conflicts, by modeling spaces that positively influence the population by peaceful coexistence?

The usefulness of other professionals, such as doctors, lawyers, and engineers, in response to the physical and psychological pain caused by urban conflicts is easily delineated. What is the role of urban architects and planners instead? Quoting Easter Charlesworth: “where is the intersection between the reconstruction of the physical landscape and the reconstruction of civil society?” (*Charlesworth, 2008*)

The goal is, therefore, to explore a new role of the architect as a mediator, who is concerned with the most urgent and classically attributed issues, namely the design and reconstruction of infrastructures and buildings, as well as the recovery and preservation of heritage, but that also engages intrinsically, mainly in the negotiation and problem-solving of urban policies and planning inherent in the urban reconstruction process (*Charlesworth, 2008*).

Therefore, at the basis of the research work, it is assumed that the architect can be not only a de-



signer of forms but also a designer of political processes and a guarantor and facilitator of coexistence and critical collaboration both between institutions and jurisdictions and within the population (*Sucuoglu et al., 2016*).

So with this project, we intend to demonstrate that architecture can and must collaborate with the other disciplines in the revitalization and propulsion of the society in question, for a future peaceful coexistence and prevention of new conflicts.

## 1.2 Methodology

### 1.2.1 Risks of an irresponsible architecture

The choice of such a question necessarily faces a methodological problem:

assuming that the premise of this research work is proven and that, consequently, architecture has an effective and active power in peacebuilding processes, it becomes necessary to believe the opposite so that architecture can have a destructive role in the socio-political dynamics of a city and its inhabitants.

Marwa Al-Sabouni, a Syrian architect who survived the bombing of her city and the civil war that broke her people, has a very strong and strict position on this issue (*Al-Sabouni, 2017*). She argues that architecture has played a fundamental role among the causes that led to the sharpening of the subdivisions of the otherwise ancient homogeneous Syrian society, and to the consequent civil conflict that led neighbors and friends to kill each other. In particular, the fault is given to building speculation which led to the replacement of the old buildings of Homs with new concrete towers, imported from the alien western culture. This resulted in a loss of the sense of belonging of the community to its own city, that common background to all the inhabitants that acted like a glue between the different ethnic-religious subdivisions.

This kind of phenomenon represents a particularly high risk in a post-war situation since it is precisely when the opportunity to fill the gaps of an urban fabric hit by war is taken that the same interventions made for peace, more or less consciously, establish the very foundations for new future conflicts. This has happened in the Balkan countries, where the contrast between ancient Ottoman architecture, socialist rationalism, and modern megastructures is a symbol of a fragmented and never recomposed identity (*Zola, 2017*).

As in Baghdad, the regeneration projects carried



Reconstruction of Stari Most bridge after war, in Mostar.  
*Source: [www.dronestagr.am](http://www.dronestagr.am)*



Chords bridge, or “Bridge of Peace”, by Santiago Calatrava.  
*Source: [www.dezeen.com](http://www.dezeen.com)*



Contrast between traditional urban tissue and new mega-buildings in Mecca, the heart of Muslim identity.

*Amr Nabil, AP Photo, 2013*





out during the 20th century in the Old City had socio-economic results equal to those of the war itself (*Al Waily, 2015*), top-down planning by foreign countries in Kabul has served to accentuate internal conflicts in the city instead of solving the problems (*Junne, 2010*).

Even excessive security is a collateral problem of post-war architecture:

United Nations outposts create inaccessible areas within the city that further contribute to undermining accessibility and homogeneity (*Valencia, 2016*), as well as military space control systems. The division of spaces and architectural barriers risk increasing the sense of alienation of the population, enhancing their anger, stress, and distrust (*Sucuoglu et al., 2016*).

In most of the cases mentioned here the problem encountered is connected to an indifference on the part of the projects of the urban context in which they are inserted and the possible repercussions that these have in the identity of a people. In general, the ignorance, voluntary or otherwise, of the social and economic context of the place where to intervene leads to inconsistent and, in some cases, fake interventions, if not harmful, even more in situations of conflict or post-conflict. Just think of some projects commissioned by the State of Israel in Jerusalem that are indifferent to the dramatic conflict situation that has existed for decades between Jews and Palestinians, including the “Bridge of Peace” by Santiago Calatrava, an expression of a non-existent peace (*Y. Saifi et al., 2018*).

So, on a methodological level, how to design in a way that is sensitive to the local context, in order to obtain a positive effect of care and peace between divided communities, without falling into the risk of intensifying those tensions to which a remedy was sought? In particular, how can it be done having a different background than the population to which the project is dedicated? Can we think of having a voice on such a delicate subject, especially when dealing with people who have suffered unthinkable torments?

### 1.2.2 Need for a coordinated method

Easter Charlesworth analyzing the cities of Beirut, Nicosia, Jerusalem, and Berlin identifies five possible examples of architect: the pathologist, the hero, the historian, the colonialist and the social reformer (*Charlesworth, 2008*).

The first four are considered potentially harmful approaches, and easily summarize what was said above. In the case of the “pathologist”, the risk brought by a top-down strategy, that tries to repair the urban fabric without considering the population within the planning and decision-making process, is faced, creating a discrepancy between the intervention and user to whom it is dedicated, as happened during the reconstruction of Beirut. As for the “hero” architect, he tends to self-referential and utopian projects, more focused on the composition and monumentality of the building in contexts in which, due to the complexity of the dynamics and the lack of resources, a comprehensive socio-economical analysis internal to international development processes would be much more appropriate and effective. The “historical” approach tends instead to a facsimile reproduction of a past situation, unsuitable in its reliance on symbolic values modified by war and utopian in promising an impossible return to a problematic past, rather than looking at a future free from causes which led to the conflict, as in the case of the reconstruction of the Mostar Bridge in Bosnia and Herzegovina. Finally, with the “colonialist” approach there is the risk given by a foreign vision implanted pretentiously in the urban context of reference. It is potentially more dangerous than the previous ones because it tends to damage the identity of the population, fueling new future conflicts.

Conversely, the architect who tries to make a propulsive contribution by trying to avoid the gaps of the first four is called a “social reformer” or “educator”. The strategies adopted in this case are (*Charlesworth, 2008*):

1. allow collaboration with the population in all phases of the design process, with a bottom-up approach from initial planning to construction and the primary objective of social and physical integration of the inhabitants;
2. take care to insert the project in the context of reference, with a complete study of the historical, architectural, economic and socio-political situation in which it is inserted;
3. to activate strategies that aim to draw opportunities for post-conflict socio-urban improvement, for example with placemaking interventions aimed at improving the liveability of the city, rather than trying to return to a problematic and unrepeatable past;
4. study and deeply know the identity, problems, desires, and needs of the population to whom the project is dedicated.

Taking into account these fundamental strategies for the success of an architectural-urban project in a post-conflict situation, Charlesworth identifies three fundamental principles that guide the architect's practice methodologically:

1. a political and ethnic collaboration, or rather the need to modify the contemporary practice of the architect so as to make possible the consultation and active collaboration with "non-spatial" professionals, such as political scientists, sociologists, environmentalists, economists, representatives of the communities, in the elaboration of plans for post-war reconstruction, as happened in the virtuous case of the "Nicosia Master Plan";
2. public consultation to make the project legitimate and democratic. The "Nicosia Master Plan" demonstrated how participatory planning itself could be a peacebuilding tool given responsibility and shared work among different ethnic groups, politicians, and communities. However, it must be emphasized that an all-inclusive knowledge of the reference population is necessary to effectively activate a participatory process;
3. pilot projects, to be able to anticipate risks in such delicate situations, one of the biggest pro-



blems of internal planning for peacebuilding processes. The great masterplans are often ineffective or harmful in an attempt to simplify the complexity of the global situation with a single intervention that can be inserted in each specific case (*Al Waily*, 2015). On the contrary, pilot projects can be easily controlled, minimizing risks and investing in local capacity through the engagement of local professionals, within a broader process that can be controlled step by step.

In light of these premises, it was decided to use the international competition of ideas “Mosul Postwar Camp” as a framework within which to move, in order to provide a practical base of work. The development phase has instead taken into account the three methodological points mentioned above, developing the elaboration of the final thesis that can be divided into two macro sections.

In the first part, the first methodological point was put into practice, namely the collaboration with other professionals to prepare the initial planning. This is a phase before involvement with the public, therefore more controlled, during which there is the aspiration to become aware of the context in which the intervention will be inserted from the historical, architectural and socio-political point of view. To arrive at the final objective, or rather a general planning strategy that attempts to answer the thesis question, first of all a thorough analysis of the context and some virtuous approaches in similar situations was fundamental through a study of bibliographic and audiovisual sources, as well as through dialogue with some Iraqi architects and active volunteers in Mosul of the NGO “Un Ponte Per...”. Subsequently, the forecast and planning of a participatory phase at different levels of the design process, all supported by constant academic collaboration with a student of International Sciences in order to have a multidisciplinary approach to the topic.

The second part, instead, assumes in itself a hypothetical comprehensive answer of the second

and third point enunciated by Charlesworth. The public consultation and the pilot project are practices necessarily lowered into the real situation. For obvious logistical reasons, this research work did not have the resources and time needed to measure the theoretical assumptions with a practical response in reality, which is why the second part of the thesis is proposed only as one of the possible scenarios in which the strategy general design could be developed. If at times, therefore, participatory strategies have been simulated based on indirect sources, such as questionnaires and interviews, at other times space has been left voluntarily for flexible and open scenarios.



Road block inside the Nicosia green line buffer zone.  
*Roman Robroek, 2018*

## ***1.3 Mosul Postwar Camp Competition***

### **1.3.1 Competition brief**

The competition of ideas “Mosul Postwar Camp Competition” is what primarily inspired this research project and the collaboration on which it is based (*Archstorming*, 2017).

The competition, launched on August 21, 2017, just over a month after the proclamation of the liberation of the city by the Iraqi government, had the objective of responding through architecture to the needs of all those inhabitants who began to return independently to Mosul, in the hope of being able to go back to their homes and their lives.

For this reason, it was proposed to design a temporary infrastructure that could primarily host, protect and guarantee the physical and mental recovery of the inhabitants of Mosul, while waiting for the houses to be rebuilt and the city to find acceptable living conditions.

Secondly, it should have served as a place to forget the suffering of the past and create the opportunity for the emergence of a new society based on peaceful coexistence, integration, and tolerance, learning from its mistakes.

To achieve these objectives, a solution was proposed for a two-stage “camp”, located in an empty peripheral area of Mosul, north of the Old City, on the west bank of the Tigris River.

The proposed program, conceived for an indicative number of 1000 inhabitants in the first phase, and 250 dwellings in the second, was the following:

#### Area 1

##### *Urgent humanitarian aid*

Receiving and caring the newly arrived returnees

1. Spaces for family registration and reunification
2. Basic emergency health and vaccination assistance
3. Psychological care area
4. Massive housing infrastructures
5. Storage areas
6. Distribution of humanitarian aid
7. Collective canteens
8. Places for religious worship
9. Places reserved for leisure and sports

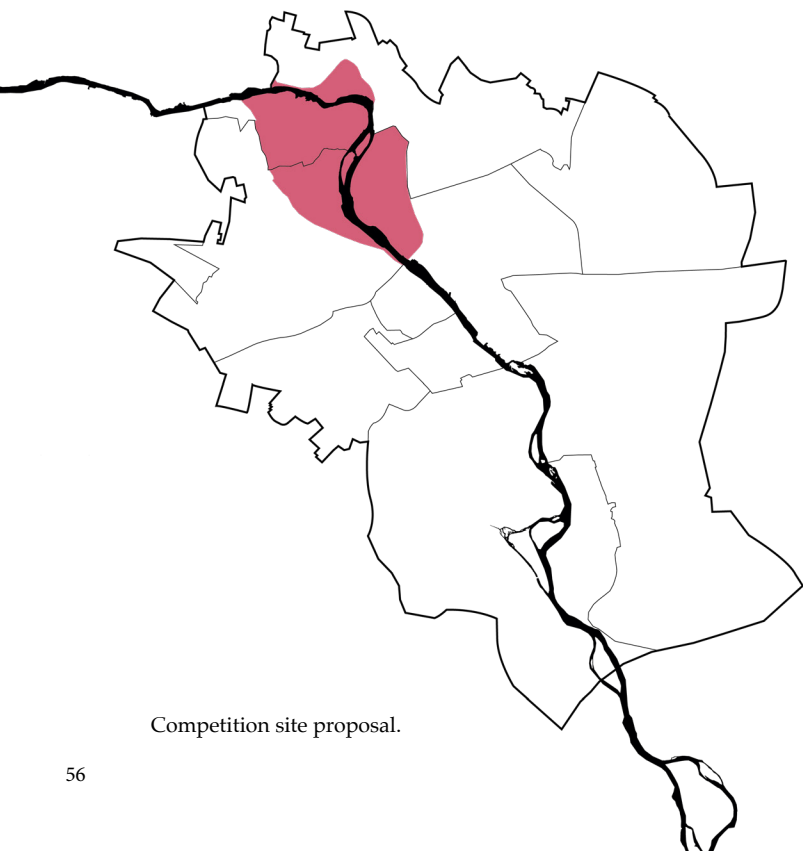
#### Area 2

##### *City Reintegration Zone*

Reintegrate refugees into society after years of uprooting

1. Individual housing for each family unit
2. area for the education of minors
3. Area for the professional training of adults
4. primary care medical center
5. public spaces for coexistence
6. places for religious worship
7. green areas
8. New market and spaces for start-up
9. citizen service offices for demands and suggestions





Competition site proposal.

### 1.3.2 Analysis of the winning projects

The winning projects have common features that are analyzed below as useful material for the project. Some fundamental traits characterize both the three winning projects and most of the mentioned ones.

Regarding the design strategy and composition, we note several features common to all projects:

1. the choice to merge the two phases proposed by the competition brief into a single continuous process;
2. a participatory approach active in all the phases of the process, in particular in the constructive one by increasing the aesthetic variety and forming the population for future self-construction;
3. the inclusion of a permanent final phase of the process, to have continuous effects over time;
4. the choice to divide the urban infrastructures into basic clusters as a process start-up;
5. the opening of these clusters towards the surrounding area;
6. the use of prefabricated frameworks, designed to contain the functions necessary for the user, flexibly and coherently with the process;
7. the use of light structures and re-used materials that propose a possible solution to the great problem of war debris;
8. the inclusion of traditional elements in various stages of the process.

Secondly, there are some features that are only found in some of the projects analyzed:

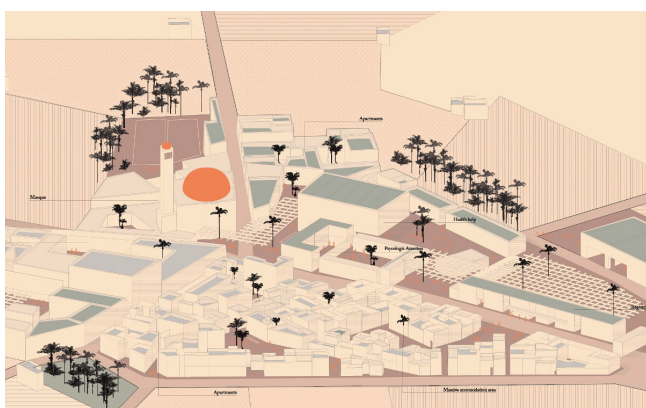
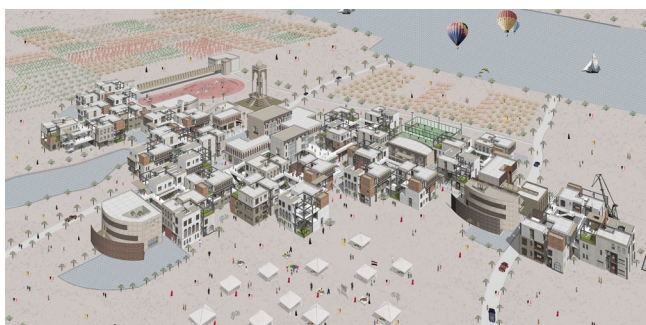
1. the choice to insert the projects within one or more empty strategic areas within the urban fabric, to support the reconnection of the population's relations with the city and at the same time facilitate the reconstruction process;
2. the subdivision of the field proposed by the brief into a network of settlements in order to impart a capillary effect on the city;
3. the decision to put an economic and social heart at the center of the clusters as a new reference

point for society;

4. the use of refugee standards guidelines, drawn up by UNHCR, in particular as regards the choice of spatial subdivisions and quantities;
5. safeguarding the heritage as an integrated part of the planning strategy.

Finally, the features common to all projects that define a weakness within the compositional process are considered:

1. the common conception of a new urban morphology, mostly informal, that do not consider a design strategy that includes the traditional morphology within it;
2. the choice of random places, inside and outside the city, or not considering specific territorial issues, as the private property one.



Mosul Postwar Camp Competition's winner and shortlisted projects  
 Source: [www.archstorming.com](http://www.archstorming.com)

## 2. Planning

*This chapter describes the general design strategy. Initially, the methods useful for developing cohesion within a population are listed. From their comparison with the typical dynamics of the humanitarian camps, we deduce the need to distance ourselves from the proposal of the competition brief and to locate the population within the city, taking the opportunity to develop the urban fabric of Mosul in such a way as to build positive interaction between citizens and their context. After describing the possible ways of interaction, proceed to the description of the design strategy. First, specify the characteristics of the user and the methods for placing the project. Finally, the process is described, subdivided in the installation of the emergency cell, development, return to housing and hypothetical future.*





Mosulian carry belongings they collected from their damaged house to wash them before returning to live in the Old City of Mosul, Iraq.  
*Felipe Dana, 2017*

## 2.1 Project goals

The project is the test field to try to answer the question on which this thesis is based: how can architecture play a role in supporting a traumatized population in a post-conflict peacebuilding process?

The population in question is that of Mosul. Thousands of survivors of the war who, after being uprooted and forced into a period of displacement, finally have the opportunity to return home. A continuous daily flow of inhabitants that for two years now has reached the gates of the devastated city. Some people risk going back to living in crumbling buildings, someone among the ruins of destroyed houses, but most stop in camps outside the city waiting for Mosul to once again acquire its habitable conditions. Despite the differences, the desires that everyone shares are to return to their neighborhoods, their streets, their homes (*IOM et al., 2017b*). The reasons are varied: in most cases, the reason for taking the journey lies in the presence of a property to return to, even if in general the sense of belonging that binds people to their place of origin is sufficient.

The objective required by the brief of the competition is to facilitate and develop, through an architectural project, the process of returning the population in two-time phases:

1. The first emergency phase is the management of the arrival of displaced returnees. It requires an immediate solution, designed to provide the population with a protected, safe and comfortable place to wait for the city to be rebuilt and once again habitable, while at the same time recovering from the physical and mental traumas deriving from the war and the period of nomadism.
2. The second phase, on the other hand, is characterized by a perspective look at the future. In it, architecture must provide the population with the means to emancipate themselves and prepare

for reintegration into the city, “restoring” the social fabric and acting as an incubator for a new peaceful, integrated and tolerant society (*Archstorming*, 2017).

While the first point proposed by the competition is typical of every emergency situation, as in the case of natural disaster, it is in the second that we find the exceptional nature of a post-conflict situation. When a city is destroyed by a catastrophic event, such as a flood or an earthquake, there is no tendency to look for an artificial responsibility and the population is often united by pain and the common goal of rebuilding. It is true that, even in these cases, the consequences of a cataclysm on the city and people’s daily lives can lead to internal tensions within the population, yet they are not even remotely comparable to the problems we face in a post-conflict context. After a war, especially in the Mosul one, the population is broken up and traumatized. All have suffered the loss of a loved one, and the cause is easily found in another population group. When a bloody conflict breaks out between people who until a few days before shared everyday life despite diversity, war and pain can only fuel imbalances and turn them into resentments. It is no coincidence that in just five years after the end of a war, about half of the countries affected by a conflict tend to fall into new situations of instability and violence (*Sucuoğlu et al.*, 2016).

Obviously, even and especially in a post-conflict case, a first emergency phase remains of fundamental importance, in particular in intervening promptly to ensure anyone’s survival and basic needs in a safe place where they have the conditions to wait, often for very long periods, the possibility of returning home. However, it is useless in the case in which we do not effectively deal with establishing favorable conditions so that this return is possible and above all ensured over time. Without conflict elaboration and an effective stra-

tegy, in the long run, any intervention to reestablish an economy, or restoration of infrastructure, or the reconstruction of destroyed houses, risks the future looming of the shadow of a new wave of destruction (*Pistidda, 2015*).

How, then, could architecture effectively intervene so that returnees can be reintegrated into the city, in a peaceful, tolerant and self-sufficient society? What are the favourable conditions for return and life in Mosul to be possible and guaranteed over time?



Tammam Azzam, Freedom Graffiti.  
*Source: [www.independent.co.uk](http://www.independent.co.uk)*



## *2.2 Intervention on population for a durable social cohesion*

The idea on which the project is based is that of a propulsive strategy that allows not only the start-up of a process of reintegration and cohesion of society but also its maintenance and development over time. To do so it is necessary to intervene bi-univocally and synchronically both on the social dynamics and on the urban ones, through a binary system in which intervening on the city can induce positive effects in the relations between the citizens, and investing on the citizens to ensure the present and future development of the city.

A comprehensive approach is needed to find sustainable solutions and make sure it does not fall into new crises. Architecture has the opportunity to look at conflicts from a spatial perspective that allows us to provide answers outside normal peacebuilding processes. Modeling the space can shape the urban fabric and buildings, but also open up possibilities for development, support and invest in livability and promote collective identity. It should go beyond physical emergency solutions and instead try to intervene on the internal cohesion of society, exploiting diversity as an essential part of it (*Sucuoglu et al., 2016*).

To produce a cohesive effect in a broken and traumatized population it is hence necessary to focus on some key fundamental aspects:

1. active participation of the whole population;
2. autonomy and empowerment of community;
3. building a sense of belonging;
4. education at the heart of the empowerment process.

To eliminate discrimination within society, increase cohesion and smooth friction, it is of paramount importance to ensure the participation of the largest possible number of social forces in the community, especially ostracized or weak parties,

such as minorities, women and children, both in the processes of planning and decision-making, both in the social and productive sphere (*Al-Sabouni, 2017*). Furthermore, the promotion of participation in local development processes is one of the basic elements useful for the rebirth of society, for its emancipation, dispelling the risk of perpetual dependence on humanitarian aid and allied nations. This phase must not only promote differences within the population as a source of wealth and invest in the raw materials available to the citizens but also generate processes of empowerment of the individual and the community. The empowerment and autonomy of society are indeed fundamental for the same principle whereby some pedagogical theories argue that making children responsible for the resolution of a conflict, rather than foreseeing the teacher's interposition, is more effective for the solution of the same (*Pistidda, 2015*).

Emphasizing the sense of belonging of a population to a common context serves to establish the foundations for reconciliation within society. Since no group of people has a single type of identity, one should strive to show and encourage this diversity without denying and demonizing it, but rather developing it locally (*Wolff, 2011*). To base on a strategy on what are the common traits of a people's identity, connected to the same territory for example, or the same traditions, can be essential to divert attention from what are instead the differences and causes of conflicts. By the same principle, the sense of security and comfort of the population are equally important, whether it is about access to resources, job opportunities or welcoming spaces where to live. On the other hand, situations of insecurity, fear, and misery greatly fuel internal frictions in society and potential new conflicts.

Finally, investment in education is predominant if long-term stability is to be achieved. During a conflict, entire generations of children lose ye-

ars of education. This can contribute to poverty and trauma cycles (*InterAction et al., 2017*), leading to the phenomenon of so-called “lost generations”: future uneducated adults and consequently unable to emancipate themselves and govern themselves. It is no coincidence that the Islamic State used the training of children as the ultimate weapon to ensure survival in the future. For this reason, education is fundamental for the empowerment of any population, as it is, in the same way, recognizing children and young people as agents of change to build a heterogeneous, lasting, stable and strong peace. In addition, at the demographic level, it can be seen that the young population is the largest portion of the population of the country, which is why young Iraqis can be the key from which to start again by virtue of the reconstruction of society, the economy, and cities (*Save the Children, 2018*). In the case of war, it is essential to invest in the school to build a new ruling class that can take on the future of its society. In Mosul, education can help children cope with the consequences of conflict through a safe and stimulating environment. Access to education is particularly essential to provide a sense of hope and control of one’s future during the crisis, as well as to contribute enormously to social cohesion, through equality, peace and tolerance teachings, starting from children (*Frisoli, 2017*).

However, the pursuit of these objectives poses a basic problem when it is related to the competition brief.



Incremental Housing Strategy in India by F. Balestra & S Göransson.  
 Source: [www.archdaily.com](http://www.archdaily.com)

### *2.3 Critique to the competition brief: rejection of the camp*

In the Mosul Postwar Camp competition, it is suggested that the needs of the Mosul returnees be met by designing a temporary infrastructure: a two-stage field located in an empty peripheral area north of the city. Yet the solution of the camp risks not only being totally ineffective in producing effects of cohesion, participation, autonomy and a sense of belonging within society but even to further exacerbate the situation. In particular, the features that most diverge concerning the objectives to be achieved are:

1. the control and the consequent absence of freedom;
2. the intrinsic temporariness of the concept of the camp;
3. the absence of social and leisure activities from among the foundations of UNHCR planning;
4. the lack of strategies to emphasize the identity and individuality of the population;
5. the peripherality that in most cases characterizes the spaces for refugees.

Agamben defines the camp as the “spatial manifestation of a state of exception” (*Agamben, 1995*). The camp as a closed place, of specificity and exceptionality, is a place where the hosted population senses their civil rights suspended under the control of some external agent. This is why it is very difficult for a citizen to feel represented in a camp. If public space is the prime incubator of a citizen’s awareness of freedom, the camp is instead “the unity of anti-urban freedom”. This does not allow the autonomy of society, feeding its discontent and supporting its cohesive processes (*Gussoni, 2014*). By limiting the capacity of the population, through control and dependence, the camp cancels those typical characteristics of the city, such as heterogeneity and openness, which sanction the quality and allow the emancipation of the population (*Herz, 2013*).

Also, the camp is a temporary place by defini-



tion, although in very many cases it tends to a semi-permanence or permanence. Temporary nature produces a state of expectation and uncertainty in which the population is not inclined to invest and participate in efforts to self-determine and develop processes of social cohesion (*Gussoni, 2014*). In the specific case of the project, the temporary nature creates the problem of future reintegration of the people within the city and of how any operation carried out within the camp must subsequently deal with completely different and potentially harmful dynamics when the final destination does not present a certain state of stability and comfort. For example, in the virtuous case of the camps of Western Sahara, where the rebirth of a society inside the host lands is being tested, thanks to the possibility of a total management of its environment by the refugees, the problem of future eventuality arises anyway of a possible return home, and how this experiment, although successful, could face great difficulties in being moved into a completely different spatial location (*Herz, 2013*).

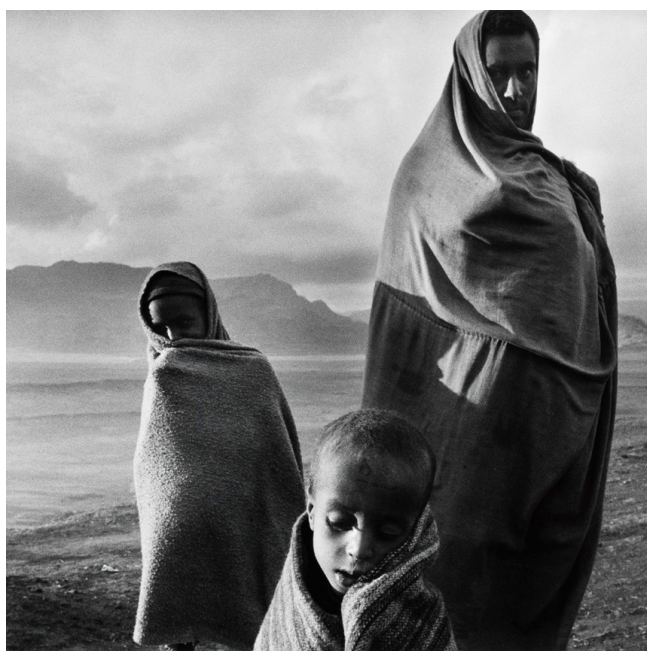
There is no mention of leisure activities within the UNHCR guidelines for camp planning, due to the priority of keeping people physically alive, and this represents another detrimental feature for the cohesion of displaced persons (*UNHCR, 2007*). In fact, we have seen how a purely emergency approach is not sufficient, especially in a post-war context, to obtain effective and lasting results. In doing so it only feeds the risk of turning refugees into “recipients of humanitarian aid”, undermining their ability to invest in their own autonomy, participation, and cohesion. The self-organized nature of social activities allows the development of cohesion within the society, as well as the emergence of specificities and differences which, as we have seen, are fundamental in peacebuilding and empowerment processes (*Herz, 2013*).

The absence of identity and individuality inside the camp is another fundamental issue (*Herz,*

2013). Most of the spaces for refugees, in fact, can also be defined as “non-places”, describing their inability to integrate other places, meanings, and traditions, ending up always remaining not characterized, not symbolic and abstract spaces (*Diken , 2004*).

Finally, the peripherality of the camps can further fuel the sense of frustration and tensions within the population. When a place, although open, is isolated and distant from any other, it tends to automatically become “an island” where people are limited in their daily lives and in their capacity to emancipate themselves (*Diken, 2004*).

Analyzing the above it is clear that the solution of the camp is an obstacle to the empowerment of the population and the development of sustainable peace. On the contrary, the city can have preponderant importance in a peacebuilding process, since, quoting Bollens, “it is within its streets and neighborhoods that negotiation and clarification of abstract concepts such as democracy, tolerance, and equity are established.” For this reason, effective work on the city can contribute enormously to the stability and ethnic reconciliation of society through a spatial, economic and psychological contribution (*Bollens, 2006*). A reconstruction intervention to re-establish the minimum levels of liveability and allow the safe return of the population can therefore also become the testing ground for the development of a new peaceful and cohesive society.



Korem camp, Ethiopia.  
*Sebastião Salgado, 1984*

## 2.4 Role of the city in a peacebuilding process

Mosul has characteristics of devastation similar to those of many other cities that have suffered the consequences of an equally disastrous conflict: institutions cease to function, the economy, medical and educational systems collapse, infrastructures are destroyed, agricultural activities are interrupted, there is a shortage of food and a state of poverty. In such a situation it is all too easy for discrimination against the vulnerable population to increase and for violence and crime to acquire renewed strength (*Sucuoglu et al., 2016*). The city, in this case, becomes an extreme and dangerous place for its population and the risk of the outbreak of new internal wars is very high. Iraq, in particular, is not new to this type of dynamics, considering that the Islamic State war was only the last in a long series within a few years. Also, each reconstruction operation was followed by a further loss of identity due to the wicked importation of contemporary buildings harmful to the cities' sense of localism and intimacy (*Malaika, 2013*).

Starting from these considerations, the project has the possibility of constituting an opportunity to intervene both technically at an emergency level, and at a social level, to produce and ensure cohesion, participation, autonomy and a sense of belonging over time. On the one hand, it has the possibility of reconstructing buildings and infrastructures, and on the other hand, it avoids the danger of future frictions and conflicts through urban strategies that intervene inside the destroyed city.

In this regard, it is necessary to operate at the urban level following specific strategies that have the power to transform the city into a fertile ground for the rebirth of society in an integrated, peaceful, tolerant and welcoming form. The essential urban interventions in this regard are:

1. investment in the collective memory linked to the identity of the population;

2. the improvement of public spaces;
3. the provision of flexible spaces;
4. the school as an urban catalyst.

Identity is intrinsically linked to continuity and memory, of which architecture is a dynamic, interactive and symbolic register that has the power to suggest and direct human activity (*Al-Sabouni, 2017*). Thus the buildings of the city are containers of knowledge and individual and collective human identity. They are therefore similar to language as a means of cultural expression (*Petrucoli, 2007*). For this reason one of the best ways to support a peacebuilding process through an intervention on the city is to invest in the collective memory that the population weaves with its environment: to build, reconstruct and restore in accordance with the context of reference, and the memory to it connected (*Sucuoglu et al., 2016*). In this context, heritage and monuments become particularly important, since they constitute the greatest symbols of the historical identity of a population and allow us to find a common background to all the groups of which society is composed. The concept of “realization” expressed by Marwa Al-Sabouni can describe the importance of the cultural heritage of society as the element that connects the individual to his past, allowing him to feel involved and realized through the meaning that the monument represents. For example, people can recognize themselves in ancient ruins feeling they are heirs to history and to the ancestors linked to them. For this reason, it is not surprising that a citizen tends to identify himself with the place where he lives rather than with a group of people (*Al-Sabouni, 2017*). Unfortunately, if the protection of cultural heritage is already normally an issue, the size of this difficulty becomes uncontrollable during a conflict situation. This happens due to political instability, damage caused by the constant abandonment, degradation, and bombing (*Pistidda, 2015*). These factors are linked

linked to one of the most serious problems in the city of Mosul, an “urbicide” inflicted by ISIS on Iraqi cultural heritage, with the specific intention of inflicting irreparable damage to the identity of the opposing people. Also, for this reason, the consideration of heritage and memory connected to it is particularly fundamental in this case. The preservation and use of symbols architecturally, historically and culturally related to the city must be emphasized within peacebuilding operations, by the great impact they can have on national cohesion and identity (*Al Waily, 2015*).

Public spaces, on the other hand, contribute greatly to the cohesion of population and local identity by acting as social catalysts where residents gather to carry out activities. They are the symbolic representation of the civil coexistence of a society, a melting pot of exchange and sharing. The use of public space is therefore crucial in defining the identity of a person (*Keleg et al., 2015*). It could also be said that it represents the heart and soul of the city thanks to its role of cultivating the interactions between different groups of the same population and for this reason it is fundamental in bringing a disintegrated society to greater inclusiveness, resilience, and cohesion. Well-designed public spaces are also the key to a well-functioning city, with positive influences on the economy, health, climate, connectivity, and security. In particular, this last point is demonstrated by the “eyes on the street” theory which is described in the guide to placemaking, published by UN-Habitat in 2011. The stated idea is that the safety of the city is guaranteed principally by the presence of citizens in the streets and buildings since they are unconscious guarantors of the control of public places. Mixed-use spaces are the most efficient from this point of view since the probability of a constant flow of people is guaranteed more in the presence of shops and other hubs of community attractions rather than in residential areas. A network of pedestrian streets represents a much more effective response to the problem of security than a spatial control imposed by walls and other separations which risks undermining the sense of belonging



of a population to its social community by reducing the accessibility of the city. In the same way, a public space or a park planned around a public function is better used as an incubator for a local economy, civic pride, social connections and general well-being within society. They are therefore also definable as “relief and safety valves” for the city (*Sucuoglu et al., 2016*). The more public spaces accommodate a large number of different functions and activities, the more they invest in the possibility of becoming melting pots for the population, where all groups within society can mix, making economic and ethnic differences and tensions pass unnoticed. It is precisely these connotations of openness and plurality that make how public space is lived as a metaphor for the whole city (*Pistidda, 2015*).

Even informality and flexibility are two useful features to feed the cohesion of the population within the city. In the so-called urban informality, the culture and identity expressed by the residents are manifested, as it is difficult to understand in other contexts. Unlike what happens in a camp or in another situation regulated from above, in a city, when there is no control that prohibits certain activities in a space, until it goes against the values or creed of the community, it is very likely that this activity will take place (*Elmouelhi et al., 2015*). The provision of a certain degree of flexibility within a reconstruction project makes it possible on the one hand to avoid the risks due to the possible rejection of the population, on the other, it allows the citizens themselves to fully insert their identity by intervening directly and occupying the spaces according to one's needs and desires. This approach simulates the same process and provides the same results as an informal settlement, where the only risk factor is given by the possible manifestation of uncomfortable living conditions. In this case, instead of reinforcing cohesion, it is possible to face an exposure to feeding frictions, so it is particularly helpful that the characteristic of flexibility is supported by a plan to check that this does not happen, even if leaving space for the population to define and identify itself in the new

intervention.

Finally, working on a city that has suffered from conflict, the restoration of schools becomes a priority in the intervention that aims to develop cohesion and internal tolerance. As we have already seen, education has a fundamental importance in the process of population empowerment. Furthermore, the school itself, as an architectural element, can act as an urban development agent within a process of reconstruction of the city. From this point of view, the camps of Western Sahara, in their exceptionality of settlements for refugees almost totally autonomous and free from the control of external agents, show that there is normally a relationship between education and the evolution of the city. In fact, it often happens that a new district is followed by the opening of a school, and that, conversely, a school that is particularly attractive from the point of view of the educational offer can activate the urban development of the neighborhood within which it is built, attracting new families and increasing internal investments at that particular point in the city (*Herz, 2013*). Similarly, a comparable process can be triggered within the destroyed city of Mosul, where dozens of schools have to be partially or integrally rebuilt.



Espacios de Paz Project by PICO Estudio.  
Source: [www.archdaily.com](http://www.archdaily.com)

## *2.5 A propulsion system inside the city*

We have seen how the camp does not provide a real answer for the displaced people and indeed it borders them in a closed and isolated system, depriving them of their freedom and further undermining their dignity. Conversely, investing in the city, in its behaviour as a carrier of a collective memory, in the presence of public spaces for sharing, in its flexibility in responding to changes over time and in its schools, the heart of the development of a renewed Iraqi society, can be the key to achieve a high level of social cohesion and therefore a lasting peace.

However, it is not possible to simply decide not to choose the solution of a refugee camp and arrange the displaced people in their city, since one cannot ignore the need for an emergency response to the immediate needs of returnees who do not have a home to go to. Not to mention that the physical return to the city is insufficient to ensure the well-being of an IDP, but it must be accompanied by a process of empowerment and construction of its future.

This is why the idea of a propulsion system was born from the synergy between the architectural and international sciences' approaches. According to the laws of physics, propulsion is the action by which a body is supplied with the energy necessary to stimulate its motion and maintain it over time. The same function must have this intervention or the dual purpose of allowing an effective return of the IDPs by providing them with a place to stay as long as their homes are rebuilt and the conditions necessary for them to contribute to building sustainable peace. This is why the "emergency phase" over time becomes the "empowerment phase", where needs such as education, psychological support, and public spaces are shared. Just think how fundamental it is to support education to promote a new class of emancipated, autonomous, free and specialized future adults, capable of self-management and self-government.

Furthermore, the insertion of this system within the city, allows intervening, taking advantage of the reconstruction, both on the spaces of Mosul and on the dynamics that they weave with the citizens. By working simultaneously on the city and the population, the root causes of the war will be undermined, triggering a virtuous circle in which both will benefit and whose results have the possibility of resisting time.

At the base of this reasoning is the idea that it is much less profitable, if not harmful, to pack the population of Mosul into a camp outside the city walls, and then re-plug it once the living conditions are restored, rather than immediately insert citizens within their own place of belonging, as well as in all phases of the design and executive process. This conviction is confirmed by the analysis of the questionnaires to which both the inhabitants of Mosul present in the camps and those already returned to live in the city despite the instability of the situation have been subjected. From these, it is clear that even the only unconditional return to the city can positively influence the morale of the population and its cohesion. In general, IDPs are more frightened than returnees with regard to returning to their homes, staying in the city and taking risks after the war (*IOM et al., 2017b*). This means that those who have already had the opportunity to return have been able to observe a globally more positive situation with respect to the fears and prejudices tried previously. Allowing the population to return home, as they wish, means enabling citizens to live again their spaces, re-establishing relationships with the city and with their neighbors, profiting from their sense of belonging, rediscovering a common identity and fostering cohesion between them. Moreover, even more important according to the theory that it is fundamental to involve the population in the peacebuilding process, citizens could concretely participate in the reconstruction of their

homes, dispelling the risk of top-down impositions, the negative effects of extraneous projects, further fueling the sense of belonging and identity connected to the city and decreasing waiting times to enter healthy and livable buildings again (UNHCR, 2007).

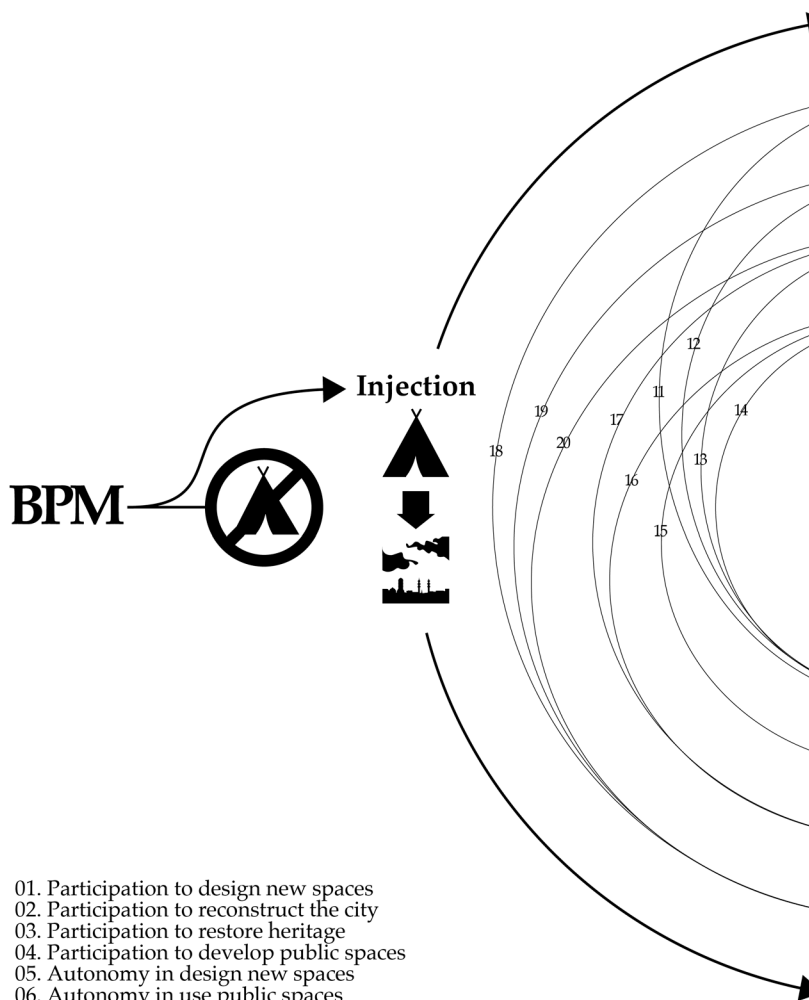
What would be created thanks to an internal propulsion system in the city would be a process of empowering the population. Just think of the possibility of involving residents in safeguarding the heritage, obtaining the multiple result of protecting the cultural patrimony, stimulating the identity of the population and investing in the common memory connected to it. From this point of view, it was observed how to generate in the native population a process of self-recognition of their local heritage is necessary within a peace-building strategy. By doing so employing active participation through listening, interaction, direct experience, appreciation, and learning, it is possible to weave the primary needs of society into the needs of identity and memory. Allowing returnees, for example, to participate in the preservation of cultural heritage can have both positive and continuous effects on restoration, as well as empowering and realizing the inhabitants (*Pistidda, 2015*). In the case of Mosul, the war not only led to the destruction, voluntarily and otherwise, of much of the architectural and monumental heritage, but it also exhausted the ability to safeguard it, due to post-war immobilization. Having this in mind, it is possible to understand how the reconstruction could also be the occasion to instruct new workers to restore damaged historical architectural and sculptural monuments. This would lead both to give a future to many citizens unable to carry on their previous occupation, giving positive effects on the confidence of the population already described above, both to protect and ensure over time the cultural heritage and the meaning deeply connected to the memory of the society. In Jordan, in Mafraq, this is already happening in the new training center “World Monument Found’s (WMF’s)”, where many displaced people have already voluntarily joined the initiative, while



a project shared with schools allows children to study and learn about their own heritage (*Darlington, 2018*).

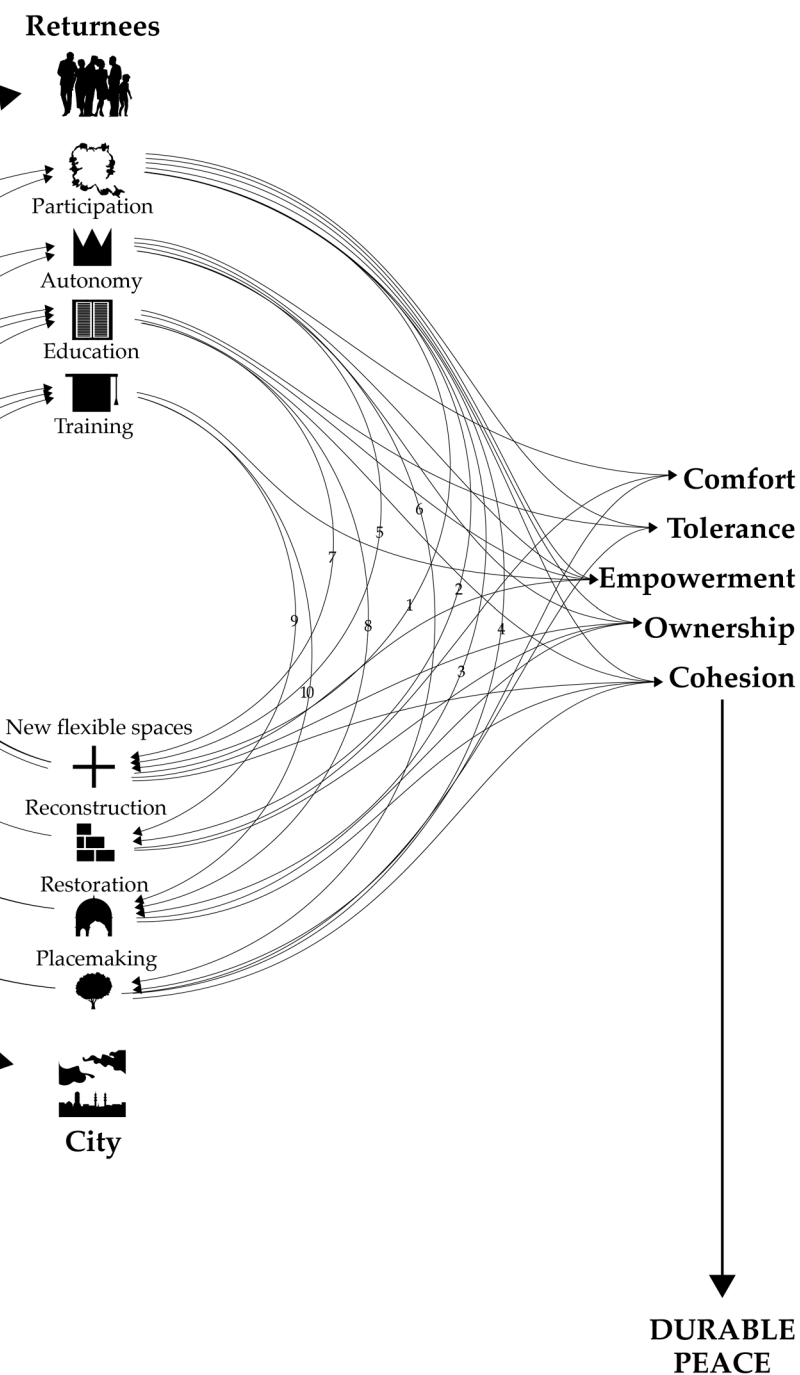
The re-appropriation of one's own development, together with the recognition of places and belonging to a spatial reality is fundamental to support the cohesion of a disintegrated society (*Pistidda, 2015*). For this to happen it is not enough to implement an intervention within the city, but it is necessary for this to be flexible, in order to make the population autonomous in the management of space, adapting their city according to their needs (*Al-Sabouni, 2017*). From this point of view, there are many cases, such as that of the Kabul slums, where the benefits of allowing the community to organize themselves are evident. In the case of the Afghan capital, the autonomy of citizens, as well as contributing to the identification of it with their city and reducing the risks of projects unrelated to the context, has prevented the increase in rental prices, and the possible consequent phenomenon of gentrification. (*Junne, 2010*).

Summing up, through the propulsion system we want to trigger a virtuous circle whereby the city and the population positively influence each other, through a continuous and exponential process, by building sustainable and lasting peace.



01. Participation to design new spaces
02. Participation to reconstruct the city
03. Participation to restore heritage
04. Participation to develop public spaces
05. Autonomy in design new spaces
06. Autonomy in use public spaces
07. Education to make new spaces in the future
08. Education about heritage and memory
09. Training of adults to reconstruct the city
10. Training of adults to restore heritage
11. New spaces of discussion
12. New flexible spaces to develop informally
13. New schools to accommodate education
14. New spaces to train adults
15. Participative reconstruction to train people
16. Restoration of heritage to train people
17. Restoration of heritage to teach identity
18. Public spaces as areas of discussion
19. Flexible public spaces for autonomous use
20. Public spaces to educate children to peace

Propulsion System diagram.



## 2.6 Design Strategy

The competition brief proposed a rigid subdivision of two phases, while this design strategy seeks to plan a process that develops over time, to put into practice the theoretical principles mentioned above.

The motif lies in the nature of the city.

If we look at the city we can see how the spaces evolve autonomously through experimentation with constant changes, derived from the interactions between city and population, tested and refined through informal and continuous development. This phenomenon is linked to the theory “lighter, quicker, cheaper (LQC)”, that is the study of the positive influences on the city of small interventions, carried out quickly and with few resources, which later evolved over time (*Project for Public Spaces*, 2012). In addition, the identity of places, as well as space, is constantly changing and is, therefore, a process to be built continuously.

Acting with “urban acupuncture” interventions, to produce controllable effects step by step, is advisable concerning the choice of totalizing solutions that can be reproduced in any situation, most often ending up being ineffective, or even harmful (*Pistidda*, 2015). Designing a process is the best solution to try to relate to the dynamism inherent cities, populations and the web of relationships between them.

The same peacebuilding operations by definition aim to make a transition over time that brings an entropic state, described by a post-war urban context, to a peaceful state. This can be seen from the chapter of this thesis on the methodology, where the tools of the “public consultation” and the “pilot projects” demonstrate the dependence of any peacebuilding process on evaluation in time and in the reality in which they are inserted.

The project, therefore, develops in a process divided into various phases.

In principle, the return of groups of returnees wi-

thin the city is allowed and supported, through temporary self-sufficient emergency cells grafted into the damaged urban fabric of Mosul, producing in the population an impulse to reappropriate their territory and identity. Subsequently, while the city is secured and rebuilt, with the possible participation of citizens, the cell evolves through the development of an area for empowerment in which returnees, together with the people who have previously returned, can integrate and take responsibility through educational, social and planning activities. Finally, as the guests of the settlement gradually return to their homes, now rebuilt, the temporary residential part of the cell is dismantled, restoring to the city the urban void as a public space, together with spaces for empowerment, developed in agreement to the needs of the population, and become semi-permanent.

In the future, this binary system, composed of the public space and the socio-cultural and educational functions that surround it, hopes to become an independent promoter of the continuity and development of a new strong, cohesive, tolerant, integrated and free society.

The project, therefore, behaves like a spark capable of triggering a sequence of actions, generating resonances starting from the micro-projects that underpin the urban city fabric, to rebalance the entire system and to continue doing so over time thanks to its ability to feed itself (*Pistidda, 2015*).

### **2.6.1 Users features**

The information deriving from the study of the situation in Mosul from a socio-political point of view has particularly influenced the definition of the first phase of the project.

The initial point of planning consists of choosing to house the population within the city instead of in a field. However, the selection of the groups to be transferred is not accidental but is based on

specific assumptions that determine its composition and location.

As already mentioned, the return to their neighborhoods is already happening informally in Mosul, where some people have started living in the city again, despite the destruction, misery, and lack of running water and energy. They return to their homes and their activities, to take charge of their rebirth and the rebirth of their city. Through the interviews of many of them - people of different religions and ethnic groups united by a common past and a common will - it is evident the attachment to their home, to the memory connected to their city, to their friends and neighbors, and the desire to be protagonists of their own destiny.

Below are some examples:

Majid Hamid.

A Christian left alone, returned to his home largely in ruins. It is considered part of a large family composed of all the inhabitants of its neighborhood.

"Even if they paid me millions, I wouldn't sell this house. It is the legacy of my grandfather and embraces the memories of my ancestors [...] I have known [my Muslim neighbors] for 40 years. I feel I am part of their family." (*Ayad, 2019*)

Mohammad Mawafaq.

He returned and reopened his small women's clothing store, named after his daughter Reemas.

"Even if no one else came back, I would come back." (*Arraf, 2018*)

Radhwan Shukri.

Owner of a tea shop where an air cooler powered by an electric line connected to the nearby police station relieves the few customers who stop by without buying anything.

"When I first opened, I made tea and then threw it out at the end of the day. [...] There was no one to buy it. But now, thank God, people are coming back." (*Arraf, 2018*)





Mosulians who returned autonomously to rebuild the city.  
*Jane Arraf, NPR, 2018*

We have already talked about how this ardent desire is what unites the IDPs and the returnees. The choice of the time to move, on the other hand, depends primarily on the conditions of the place to which they wish to return, and secondly on the fear (*IOM et al., 2017b*). However, there is no need to try to force the return of a citizen, since returning prematurely can increase the vulnerability of families, further reduce their resilience capacity, as well as exacerbate frictions and conflicts.

For this reason, the first fundamental assumption for choosing the groups to be transferred to the city is that no one is obliged to move, but also that the return is as safe, informed and voluntary as possible (*Human Appeal, 2018*).

Structuring a project strategy starting from a choice of the population is of fundamental importance since it allows to insert the responsibility of citizens at the base of the peacebuilding process. The fact that citizens are masters and guarantors of their own destiny is the first assurance of the effectiveness of a process of revival of the city.

We must also consider the fact that most people who wish to return, or who have already returned, do so under the presence of a property waiting for them. In the specific case of Mosul, the war has caused disastrous damage to properties. A 2016 IOM report shows that in the Nineveh governorate, 90% of the displaced population suffered the destruction of their homes. The demolition of a property not only causes the displacement of its inhabitants, but also the loss of the documents and property rights associated with them. Considering the subject of ownership inside the peacebuilding process can therefore greatly facilitate the return process, while at the same time contributing significantly to the reconciliation and resolution of conflicts within society when citizens' rights are respected through fair and transparent administration (*Sonmez et al., 2018*).

It is true that this task is outside the control of an architectural project, but at the same time inserting this theme at the center of the design strategy can avoid the risk of superficial solutions, considering for example how much the issue of

private property can influence the cohesion of society. Encouraging the return to their homes can indeed rebuild the pre-war multi-ethnic integration. Once again, a synergy between socio-political, economic and juridical disciplines and the architect appears fundamental, not only to meet the problem of property rights but in the whole planning strategy.

People often prefer to redistribute the population within an urban frame, to divide it into its ethnic components and avoid the huge risks of civil conflicts, but this is a solution that is preferable only in the short and medium term. Instead, wanting to achieve lasting results on the normalization of society, it is necessary to face the dilemma posed by the risks of reintegrating the displaced into the area where they lived before the war, managing its probable tensions to succeed in building lasting peace. In Sarajevo, for example, this did not happen, thanks to a more pragmatic choice to divide the population in an ethnically orderly manner, stabilizing the situation and eliminating the risks of internal tensions in the bud. However, this choice did not facilitate the restoration of the multicultural residential frame, indeed it made it even more difficult to obtain (*Bollens, 2006*).

On the contrary, intervening in a “gentle” way, without distorting the dynamics inside the city before the war, one can allow the autonomous adaptation of a new society and the development of a new city intrinsically linked to the memory of the previous one.

Based on these reasonings, the project strategy aims to relocate, within the urban frame, groups of conscious and voluntary citizens, starting from their area of origin, foreseeing that this selection takes place in synergy with a non-architectural operation aimed at solving the problem of property and loss of documents.

In this way the process of social cohesion has the opportunity to develop from the very first phase of the project, starting from the mending of relations with one’s neighborhood.

At the same time, the prototype group could

self-structure itself by constituting a democratic local governmental system, increasing cohesion and integration through autonomy and participation in public life. This idea is suggested by the traditional social structure of the Islamic city, where the neighborhood behaved like an autonomous government agency within the city, controlling and maintaining both public spaces and private properties through collective participation. This was also linked to a certain spatial autonomy in freely managing the conformation of one's place of belonging, partly thanks to the typically flexible nature of public space in the Islamic city (*Nour, 2015*).

### **2.6.2 Site features**

Contemporary to the selection process of the citizens to be relocated to the city, the suitable places for the settlement of temporary cells are defined. The private property issue is crucial in this case as well.

While on one hand, considering the location of the citizens before the war suggests the usefulness of reconstructing the spatial relations between the returnees and their areas of belonging, on the other hand, it involves the choice of a location in respect of the cadastral subdivision of the territory in order to avoid superficial solutions.

This is not the first project that plans the return of the population of Mosul within the urban fabric, but in most cases, the choice of the location covered the gaps left free by the destruction of residential areas of the city. A similar approach to the informal settlements' one was conceived, in which, starting from the grafting of basic modules, the project developed autonomously going to sew up all the demolished fabric. However, in no case, private property as the previous cadastral and architectural context was considered, showing a clear discrepancy between the project and the reality in which it was to be inserted.

For this reason, the placement of temporary settlements necessarily concerns public spaces. In par-

ticular, it is decided to select, among all the public spaces of the city, those places destroyed but previously occupied by a public building, or a monument of particular social, historical or symbolic importance for the citizens of Mosul. The reasons are different.

First, because of the profound connection between the places that are part of the city's memory and the identity of the population. Public buildings and monuments are powerful symbols that have a great impact on the identity, pride, and morale of citizens. Furthermore, they constitute the testimony of a common past for the whole society, and for this reason, they have a great educational power towards the new generations (*Al Waily*, 2015).

The physical act of setting up the new cell above the rubble of a place that is fundamental for the identity of society takes on a strong symbolic value capable of profoundly influencing the population who is re-living that space differently. It recalls a painful past not to be forgotten and at the same time a common memory from which to reconstruct one's life and city. For this reason, the choice to connect the intervention to a destroyed and deeply rooted place in the identity of a society can strongly influence the cohesion within the population.

Second, because the idea of superimposing the emergency cells on top of Mosul heritage sites is linked to the problem of the catastrophic damage it has suffered, seizing the opportunity to intervene to recover and safeguard the memory of the city. The planned and systematic "urbicide", perpetrated to mutilate the identity of the adverse populations by the Islamic State and by the previous extremist groups, had very serious consequences not only for the Iraqi society but also for the history of the entire human civilization.

It is estimated that only in Mosul at least fifty buildings, including monuments, places of worship and other artifacts forming part of the cultural heritage, of which a few thousand years, have

been completely demolished during the war (*The Oriental Institute*, 2017). Sometimes the places of destroyed buildings are no longer in a state of ruin but have been completely razed to the ground and their sites purposely paved by ISIS as a sign of total and definitive annihilation. It is very important that efforts are made to preserve and recover the memory of these symbols before it is wiped out forever.

If on one hand in such situations it would be natural to try to restore the state of things to a situation before war, on the other hand in a post-war context it is necessary to pay particular attention to the risks derived from the denial of the present. During the conflict, the intrinsic meaning of an architectural symbol, however important it is, tends to change regarding the vicissitudes that have struck it.

From this point of view the case of the Mostar bridge is an example of how, despite having opted for a complete and philologically faithful restoration of the artifact, the shared memory and the social sense connected to it have changed forever. Today the bridge looks like a beautiful unused artifact, the symbol of a fake peace at risk of rejection (*Zola* 2017). It follows that the socio-political reality of a post-war context needs a comprehensive approach that aims to look to the future, even without ever losing connections with its past. This requires a reinterpretation of the inherited reality (*Wolff*, 2009).

While working on the cultural heritage, it is necessary to know and take into consideration the history and at the same time, both include the associations that it has established in the present and its new role within the cultural and social configuration of the city.

Rather than rejecting the present alterations as invalid and trying to return to an unrecoverable past, one should strive to reconcile the city and the population taking into account all the parts of their history, including war as a lesson to learn from. Preserving, therefore, does not only mean protecting the current state of an artifact, nor to return to a previous state. Rather its meaning is re-



presented by a process of interpretation and adaptation of the present (*Van de Ven, 2016*). For this reason the idea of safeguarding the memory of the Mosul's destroyed monuments, first protecting them through the overlap of the temporary cell, and subsequently returning them to the city as healed and publicly revitalized voids, do not want to constitute an affront to the identity connected to them, but rather the act of making them symbols of all stages of their past.

Finally, public buildings, together with the monuments inside the city, tend to present a strategic position and consequently useful as regards their symbolic importance and their connection to infrastructure. On the one hand, most of the locations of the public buildings in Mosul, particularly those that are part of the religious heritage of the city, are not randomly distributed but rather positioned to have a particular relevance within the urban fabric, especially concerning visual connections. They were often planned in areas of attraction for flows and social interaction within the city and had a strong impact on the public life of their local areas (*Matloob et al., 2014*). Therefore, by imposing the new settlements in the same positions, continuity could be established with the activities previously practiced in the vicinity of those places, as well as exploiting the accessibility and symbolic and visual importance, simplifying and stimulating the process aimed at transforming the new centers in landmarks for the entire city.

On the other hand, the fact that important public buildings, such as mosques, museums, and government buildings, were often very accessible, and therefore surrounded by streets, allows us to assume that they will be among the first points of the city to regain access to supplies of water and electricity. The roads are some of the most permanent elements of the city and, for this reason, they are very often linked to public infrastructures (*Herz, 2013*).

### 2.6.3 Process

Assuming that the location of the temporary cells is described by those urban voids that constitute open wounds in the urban fabric and the identity of the population of Mosul, the local characteristics useful for the project are described.

The chosen spaces should present the characteristics suitable for the expansion that will follow the first emergency phase. In this case, the presence of empty and amorphous public spaces, such as car parks or similar, which are normally found around monuments and public buildings, are essential to meet the needs of the project, because constitute the urban voids that will form the basis for flexible spaces of empowerment. Given their characteristic of weakly connoted places we can imagine that, unlike the significant central space, they will be permanently occupied to continue to serve the community as catalysts for civil coexistence.

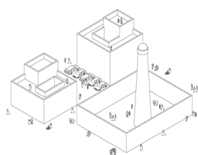
Also, the selected places will often present the ruins of the destroyed building, as well as a large amount of indistinct rubble. The project will have to take these records into account when occupying those spaces. For this reason, the design strategy involves the overlapping of a light reticular, modular and raised structure that can literally cover the project site and act as a framework for the development of the temporary cell.

Note that the presence of debris is one of the major problems in today's post-conflict Mosul, constituting a huge obstacle to the reconstruction process. The formal choice of a grid is therefore made in order to express a balance between specific local conditions and the need for efficiency and speed. Its characteristics of order and stability facilitate its overlapping to every empty area, while versatility and uniformity allow it to be modified according to multiple conditions, such as geography, topography, culture, traditions or resources, that characterize a specific place (*Herz, 2013*).

This form allows the initial emergency intervention to be very rapid and efficient, having the possibility of being installed with a minimum foun-

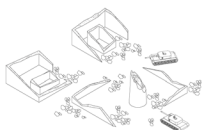
### Before war

In the city tensions grow, especially in the poorest areas where the population suffers bad living conditions.



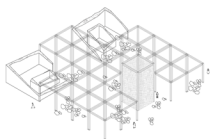
### War

During the war the city is destroyed, the debris cover everything and the buildings are razed to the ground.



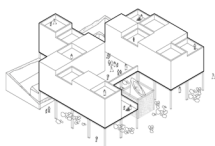
### Emergency grid

A temporary framework is inserted into the city on public land, enveloping the monuments' ruins.



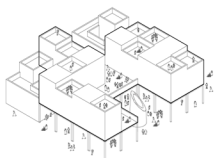
### Temporary cell

On the base of the grid develops a temporary settlement that allows people to return.



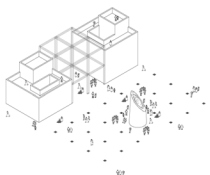
### After emergency

As citizens inhabit the temporary settlement by re-establishing relationships, the houses are rebuilt.



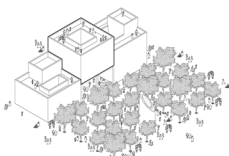
### Cell Dismantling

The citizens return to their homes so the settlement is dismantled leaving an urban void with the restored ruins.



### Binary System

Instead of the cell, a public park and buildings for empowerment are built to maintain peace over time.



Propulsion system process.

dation intervention, delaying most of the disposal of the rubble of the destroyed buildings. This permits the restoration and recovery of the ruins below the cell to proceed with relative calm.

If this system is easily adaptable to any situation that has the characteristics mentioned above, then it will be developed in a specific way in each different area thanks to an in-depth study of the context in which it is inserted and the particular needs of the group of people that will live there. This system of timely insertion of ad hoc micro-projects aims to preserve the diversity, multi-ethnicity, and specificities of each place in the city (*Bollens, 2006*).

Once the users and the project site have been identified within their area of origin, the temporary emergency cell is installed. Thanks to the collaborative planning between architects and non-spatial experts, the area is organized to meet the primary needs of the returning population. In particular, the program of the first phase includes not only the construction of temporary residences for the displaced people but also first aid clinics, offices for registration and assistance to returnees, collective canteens, warehouses and distribution areas for humanitarian aid, that can serve not only the cell's inhabitants, but also all the citizens returned in autonomy and allocated in the proximity. Furthermore, it is necessary to make the settlement almost completely self-sufficient, at least as long as the public infrastructure is not restored. To this end, tanks for water recovery, renewable energy sources and spaces for cultivation and self-maintenance are conceived.

Finally, thanks to the provision of collective discussion areas from the very first phase of the project, it is possible to immediately start a participatory process between experts and communities, to strengthen cohesion, resolve conflicts and plan cell expansion based on needs of the specific group, crossed with the chosen functions related to empowerment.

While the process of restoration and reconstruction

of houses go on and the residential settlement begins to be no longer necessary, the spaces for empowerment are designed and assembled, starting from the same modular framework of the grid, following the specificities that emerged from the cell's internal collective discussions. The a priori selected functions consider education, culture, training, and participation in the social sphere of the community at the center of their program.

The autonomous organization of educational provision by returnees is also reflected in the development of cohesion and collective identity. The opening of new school classes can serve not only the inhabitants of the settlement but also the neighboring population, stimulating the return of other citizens and becoming an urban agent for activating the entire area (*Herz, 2013*).

It is no coincidence that many initiatives of realities operating in Iraq, such as the "Peace Workshops" of the NGO "Un Ponte Per ...", put young people and schools at the center of peaceful coexistence operations. Thanks to the study of these youth centers, the importance of inclusion of social services, spaces for sharing and debate, as well as educational activities such as language courses, music, theater, sports, professional training courses, workshops and empowerment activities (*Un ponte per..., 2018*).

Also, thanks to specialized training and workshops for adults, the population has the opportunity to learn the practical knowledge to rebuild the city, restore their cultural heritage and learn new jobs with which to start activities, emancipate and restart 'economy.

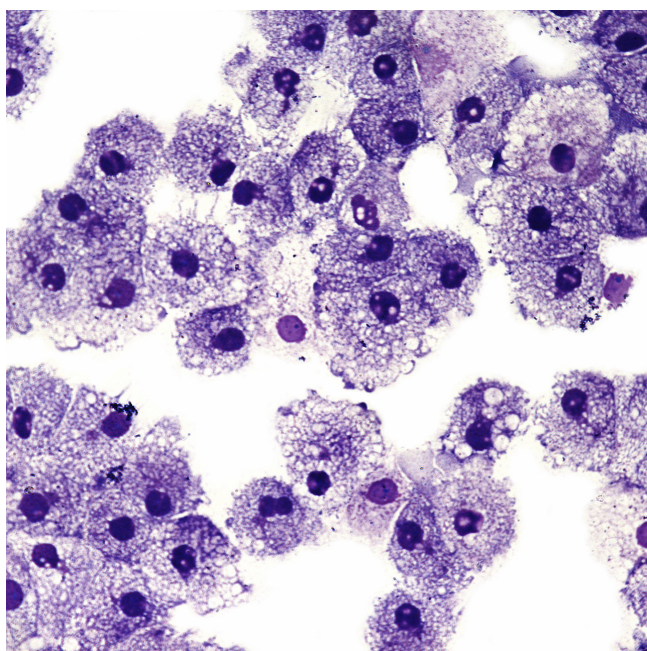
Once a return to the property is possible, the residents of the cell leave the temporary emergency settlement, thus allowing its dismantling. The disposal of tons of debris that covered the intervention area allows the urban scar to be transformed into a green lung, now a record of the historical memory of the city returned to the community as an outlet for friction and a catalyst for peace. Furthermore, freeing the space below the empowerment area from the rubble allows it to be

converted into a flexible area, suitable for hosting individual commercial activities and setting up an informal market. This gives rise to situations of exchange that feed the peace process between people, as has always happened in the public places of Mosul and the entire Arab world.

The traditional souk is an example, as it is a covered Ottoman style market where all citizens tend to have a job experience at least once in their lives. It presents itself as a place for trade and peaceful interaction in the name of common interests (*Al-Sabouni, 2017*).

Hypothetically, after many years, the city is rebuilt, developed in a way that is impossible to predict but planned independently by its inhabitants. Peaceful, cohesive and healthy.

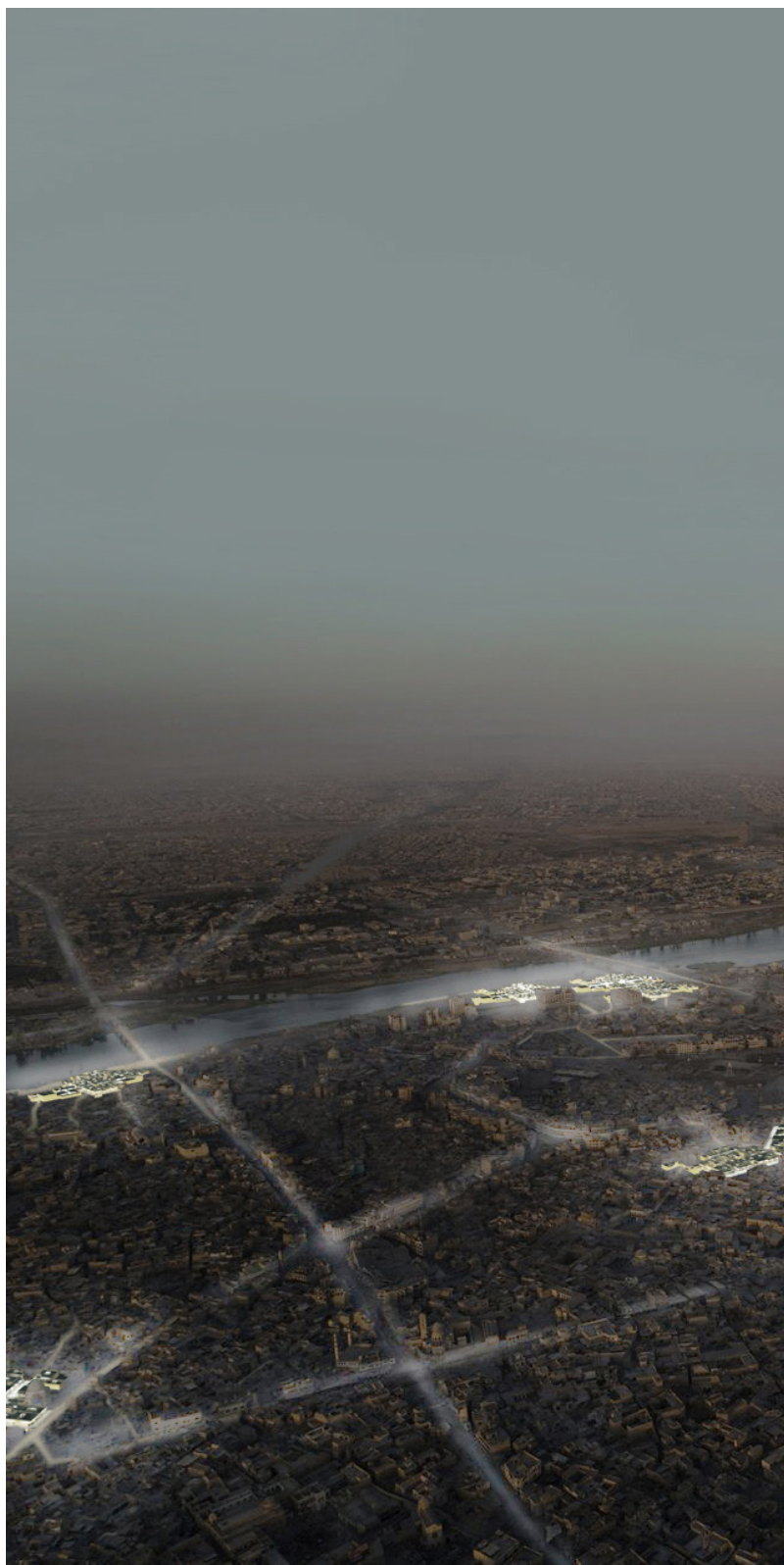
The new propulsion systems, consisting of the binary apparatus made by the public park and the center for the empowerment that surrounds it, act in symbiosis, maintaining their function as gathering places and catalysts for the whole community over time. The constellation of these systems in the urban fabric of Mosul constitutes a network that activates all areas of the city indiscriminately, guaranteeing the civil coexistence of all groups within the population on an ongoing basis.



Microscope picture of placenta stem cell treatment to cure cancer.

*Source: egener8.ac.uk*





Network of temporary cells injected into the urban fabric to reactivate the city.



### ***3. Pilot project***

*In this chapter, the pilot project is developed, as a simulation of the design of a first settlement based on the theoretical apparatus of this thesis. First, the area for the new settlement is selected, thanks to a study that goes from the general to the particular, ending up choosing the former Al-Nuri mosque's area inside the historic center. We proceed to describe the temporary cell from a structural, morphological and functional point of view, and secondly its evolution in a binary system composed of a Center for empowerment and a Memory Orchard. Finally, a brief paragraph suggests a possible development of the system devised over time, along with its long-term consequences on the population of Mosul.*



Iraqi refugee children who fled IS with their families.  
*Sharon Behn, VOA, 2016*

### *3.1 Introduction to the pilot project*

According to Charlesworth's points (*Charlesworth, 2008*), at this moment, once the propulsion process described above is theorized, it would be necessary experience it in practice by submitting it to the opinion of the citizens of Mosul, the users to whom this project is dedicated. If the project was well-received, an experimental phase would be carried out in the reality of the city of Mosul through a pilot project and, in the event that this would work, its actual implementation on a large scale in the city.

While up to now we have tackled the project with a theoretical and therefore controllable approach, now we move on to an implementation phase. This, as anticipated in the chapter on methodology, is impossible to carry out in this research work for a problem of time as of means. However, with an experimental and above all illustrative purpose, it was decided to simulate a possible design scenario in which, through the use of materials provided by research and contact with some members of the NGO active in Mosul, "Un ponte per..." an example of a pilot settlement and its evolution over time is proposed.

Therefore, the first step was to choose where to insert the project, studying the topographical material and data relating to the city of Mosul, in particular concerning its post-war situation. After identifying the area of the city that most needs an intervention due to levels of destruction and potential compared to the long term, the sites that best reflect the spatial characteristics listed above necessary for the insertion of the project framework are evaluated.

Once the site has been identified, the cell to be inserted must take into account the morphology and typology of the urban fabric and the characteristic buildings of Mosul. This is combined with a study concerning the technological composition of the settlement, from a material, structural and functional point of view.

Finally, visions of the second phase of the project

are proposed, that is the composition of the empowerment hubs thanks to the administration of some questionnaires useful to imagine what functions could be included in these buildings, and the installation of a memory orchard in the place of the cell now dismantled.

At this point, the project gradually leaves the baton in the hands of the population, in the hope that the propulsion system has been able to provide it with the necessary tools to be able to write its future in freedom and independence. If initially, the project had an often top-down approach, now the role of the architect becomes increasingly marginal, leaving room for the participatory contribution of the population, until it disappears to allow a completely bottom-up approach and make the population of Mosul sole guarantor of one's destiny.

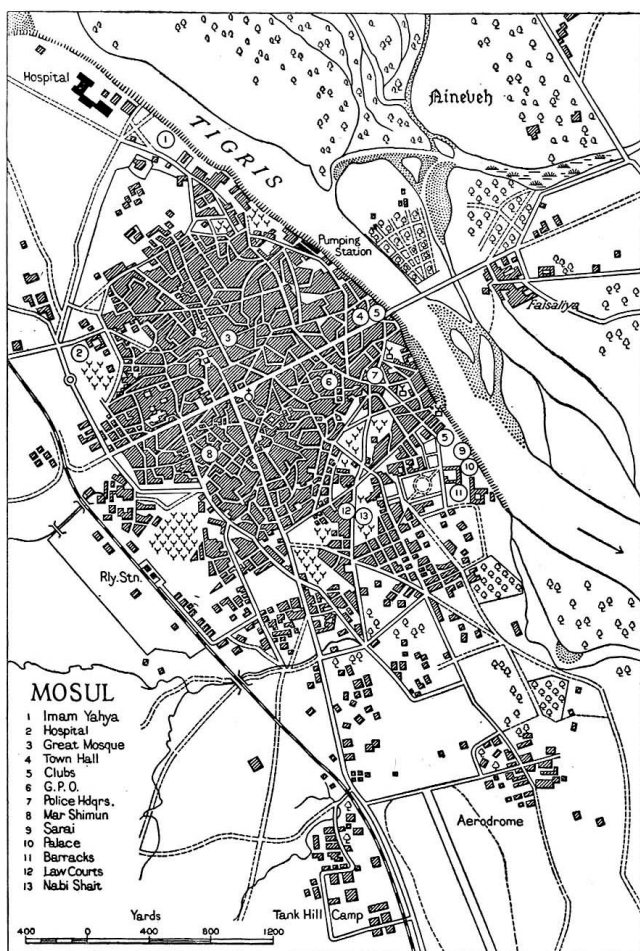
## 3.2 Site selection

### 3.2.1 City analysis

The city of Mosul which today is on its knees, annihilated by the war, is a glorious cultural and commercial center. Founded in 1080 BC, buried under a huge amount of rubble there is the oldest city in Iraq. It was born as a small village on the western bank of the Tigris river, thanks to its strategic position in the Valley of the Two Rivers it prospered during the succession of Islamic caliphates becoming an important center of trade within the road that connected India, to Persia and the Mediterranean Sea. Before the war, Mosul continued to have a predominant position in this area, gaining the role of capital of the northern part of Iraq and the second-most populous city in the region. Moreover, it was an important tourist destination, in particular, thanks to its historical and religious symbols, as well as the archaeological sites and narrative ruins, the memory of ancient civilizations. The war that led to today's destruction is even more incomprehensible if we consider not only what has been said so far, but also that the city was distinguished by its intrinsic diversity, from a cultural, social, religious and ethnic point of view. Specifically, its population was historically mixed, composed of groups of Arabs, Kurds, Turkmens, Shabaks, Assyrians, Armenians, Chaldean Christians, Yazidis.

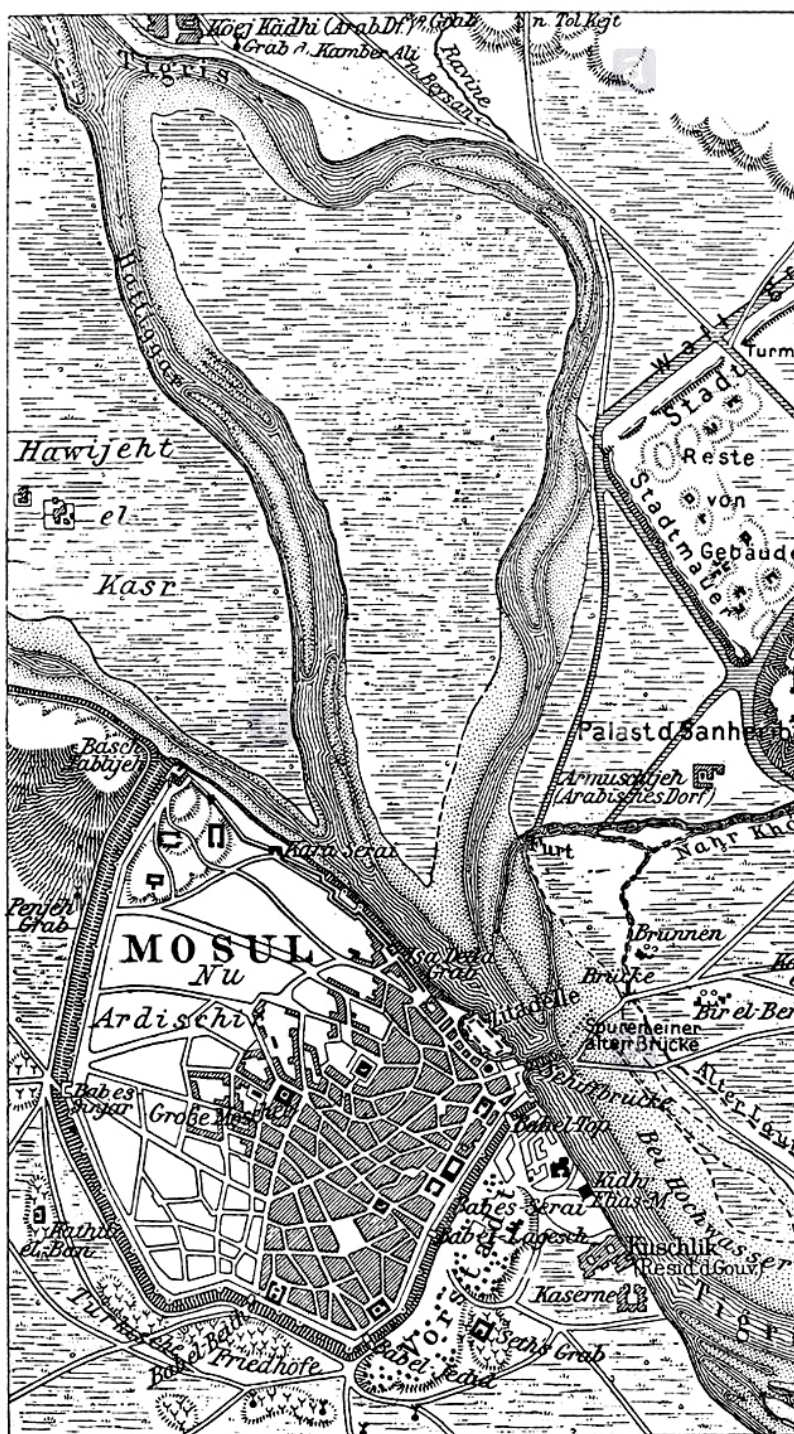
Unfortunately, this was not enough to prevent the catastrophe, when those same differences that previously constituted wealth turned into sources of anger and hatred. Among the main causes there is a growing state of poverty and malaise and the related chain of abuse, speculation, and war that caused a first great wave of IDPs between 2003 and 2014, which, forced by poor economic conditions and means, were forced to settle illegally in informal settlements, in the poorest areas of the city, highly efficient incubators of crime and extremism (*UN-Habitat 2016*).



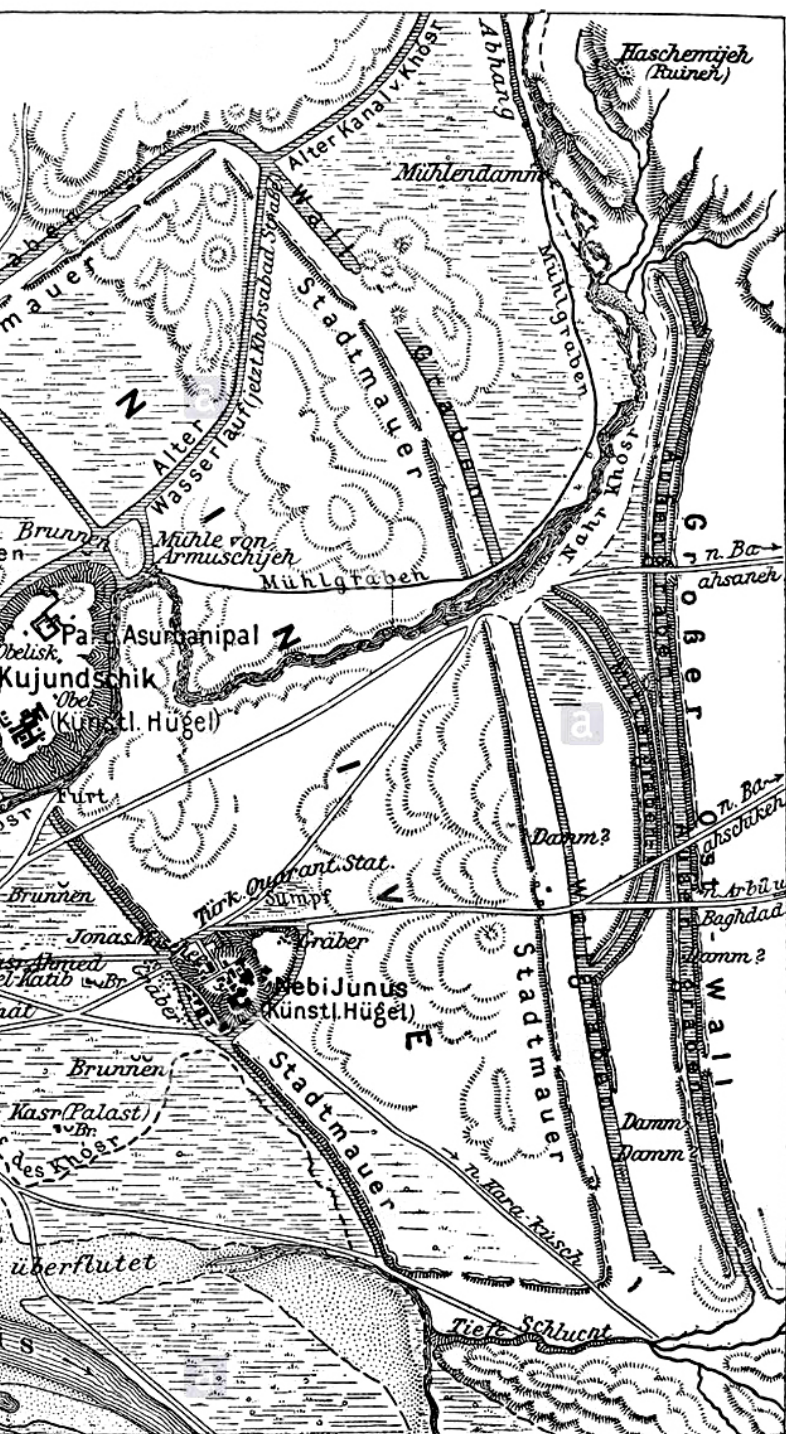


Mosul in 1944 A.D.

Source: M. H. A. Samadand, *Impact of Materials on Conservation of the Built Environment: Case Study of Historic Mosques in Mosul Old City*



Ancient map of the ruins of Niniveh and Mosul in early 1900's.  
Source: pixers.uk







Manual drawing of the city dating back to 1861.  
*Source: [www.alaraby.co.uk](http://www.alaraby.co.uk)*





Satellite imagery analysis of Mosul by The New York Times.  
*Source: Landsat*

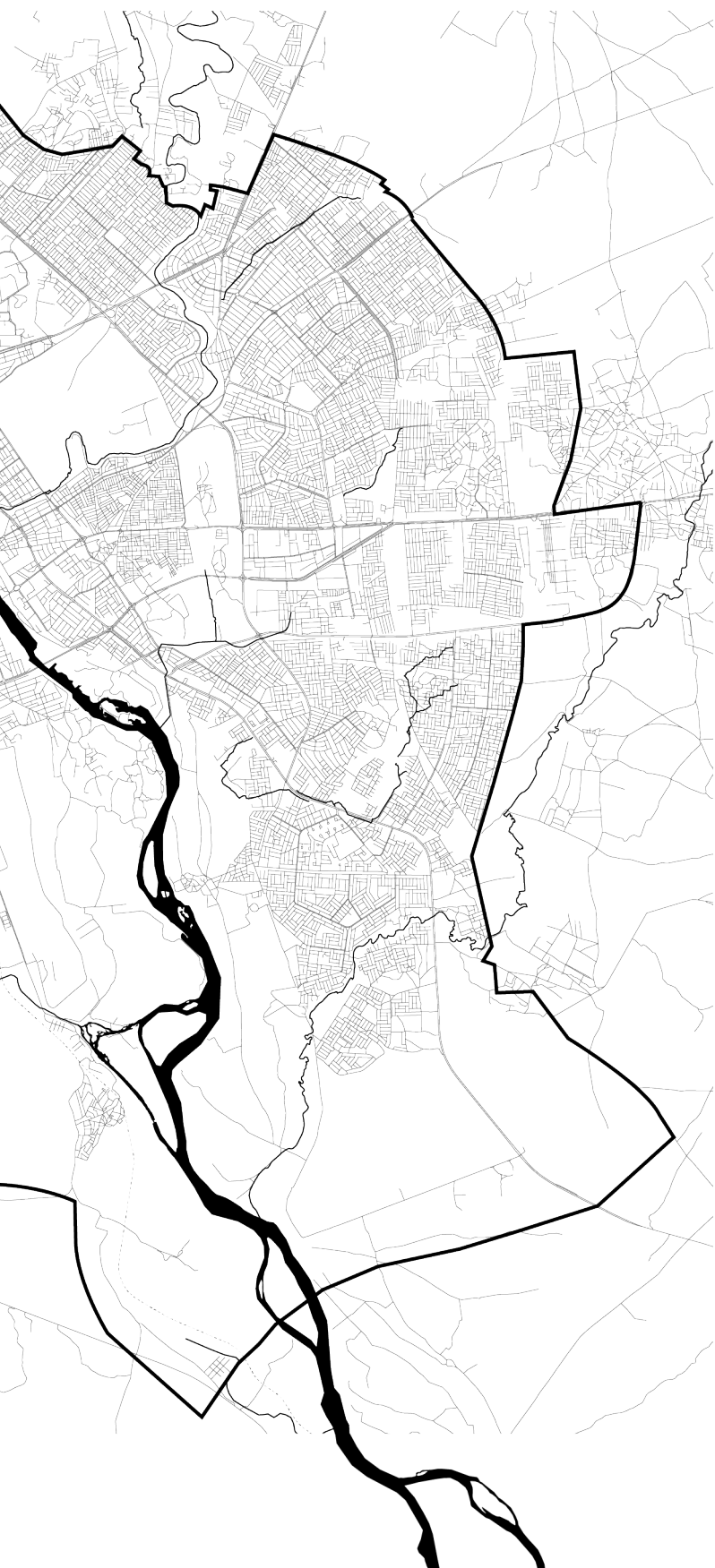


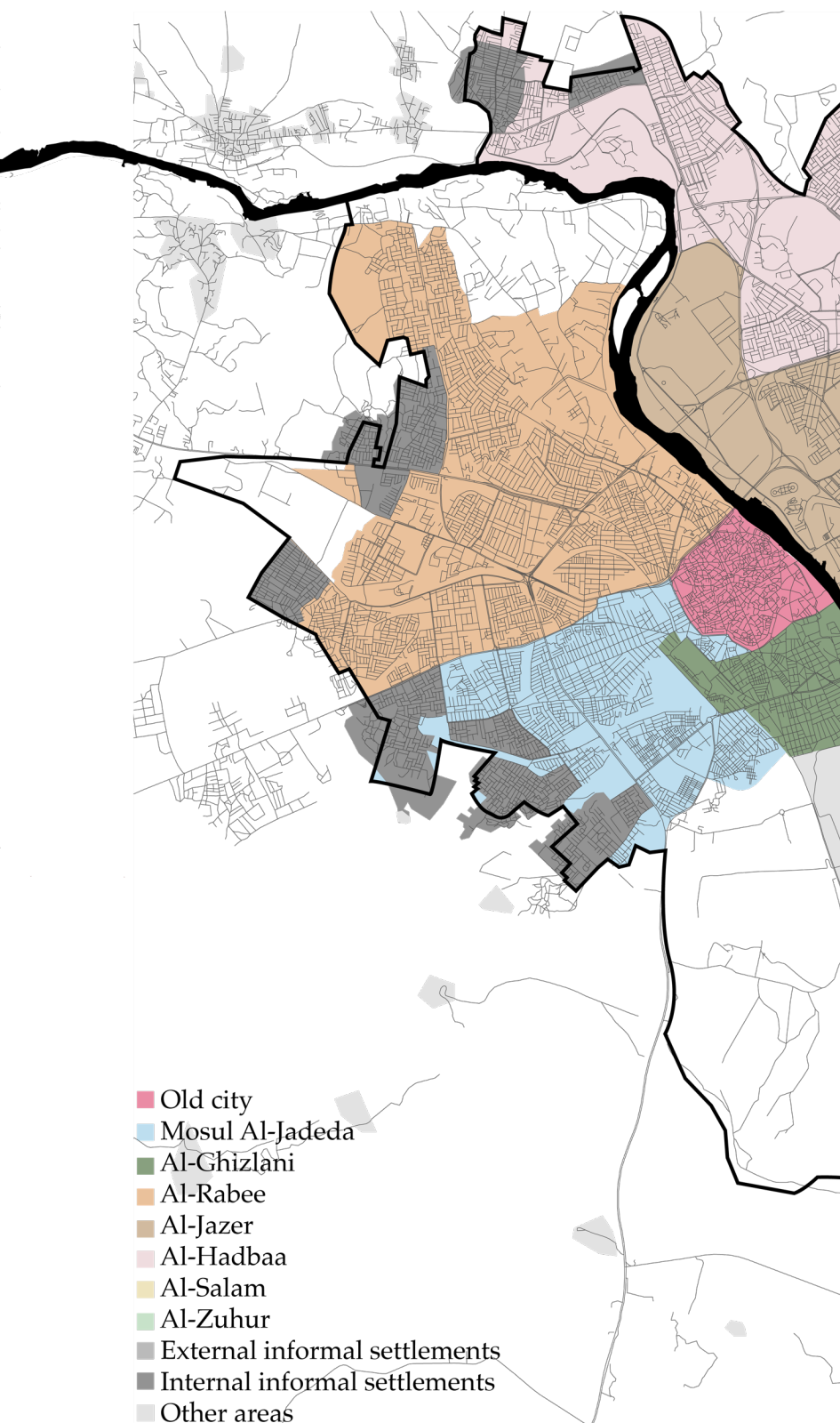




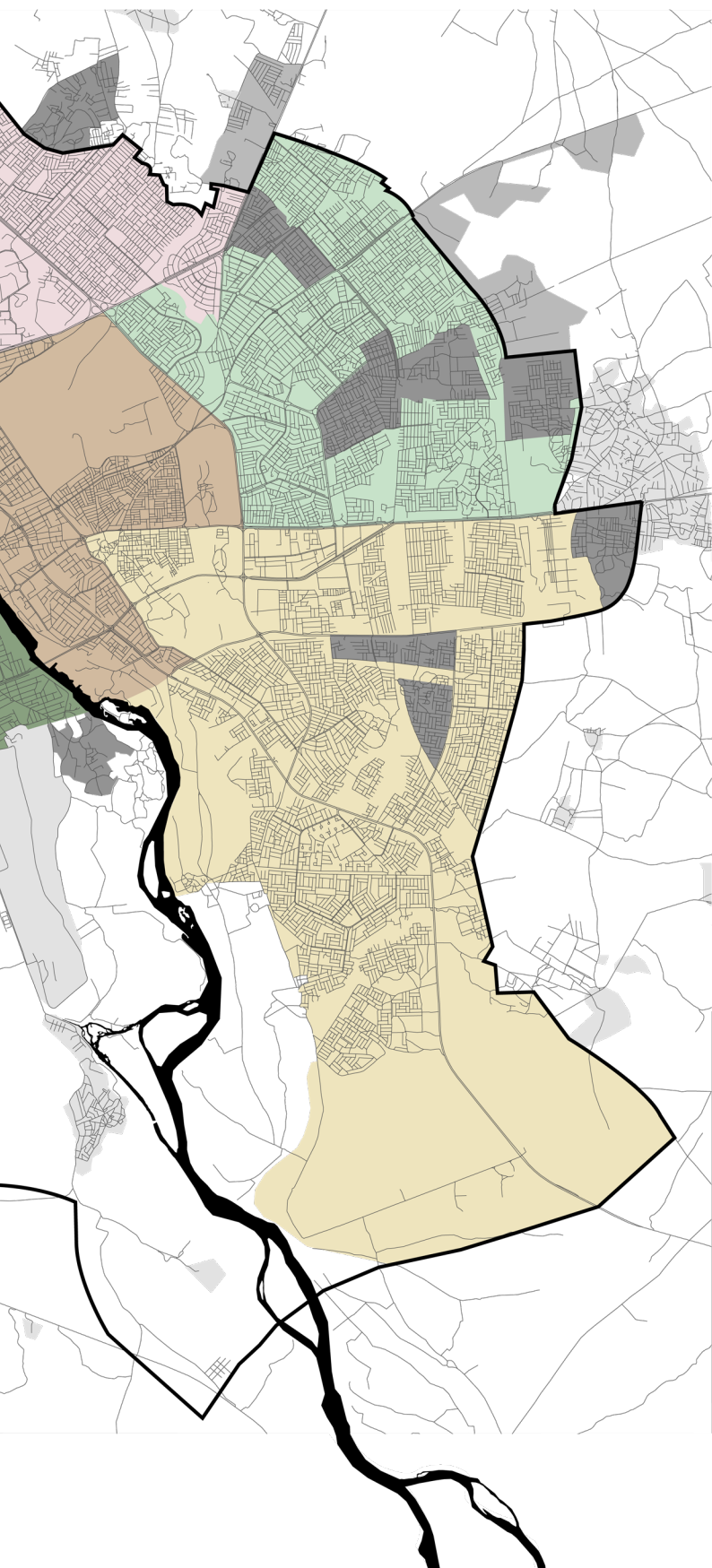


Mosul border and road system.

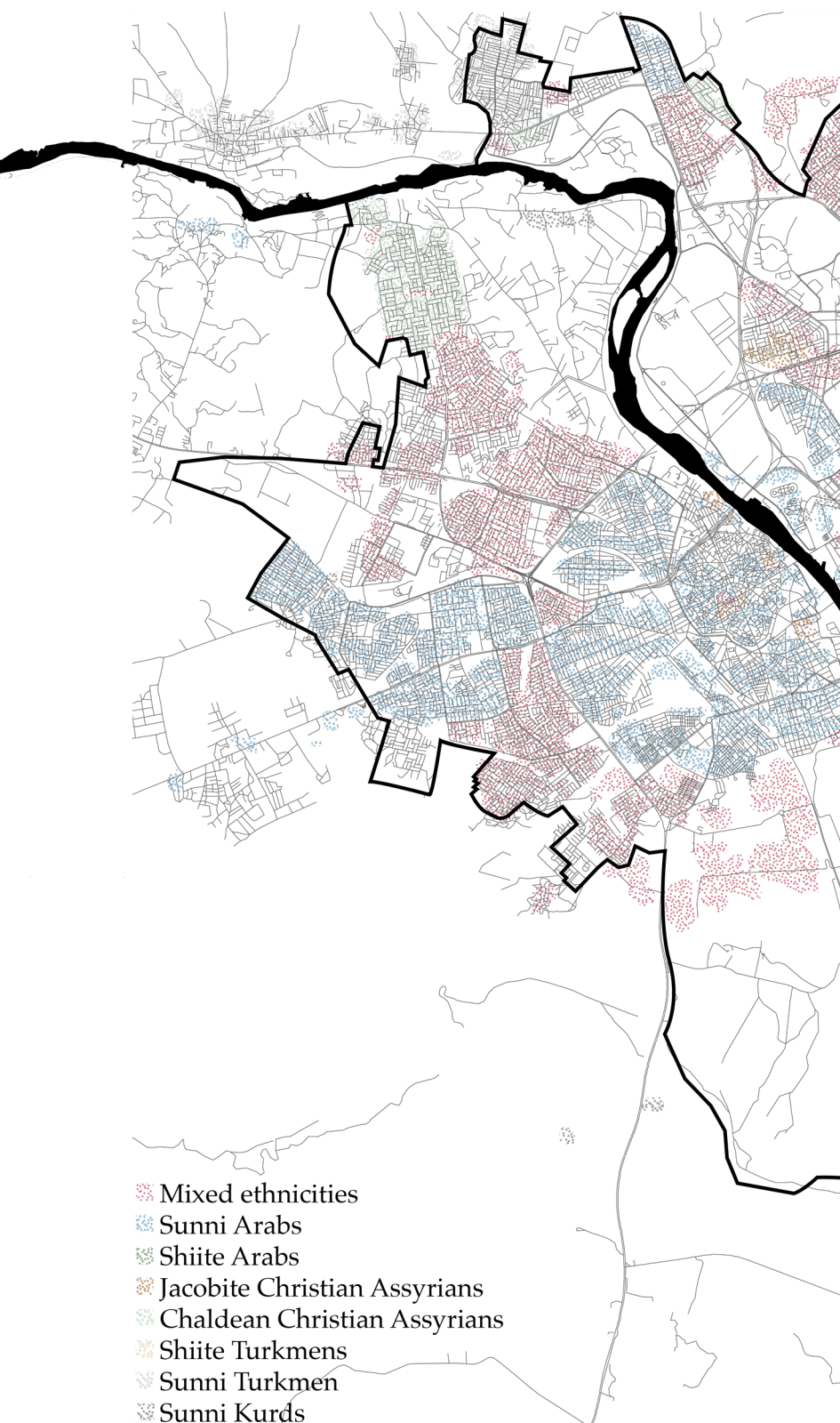




Municipal subdivision and informal settlements.  
*Source: UN-Habitat, 2016*

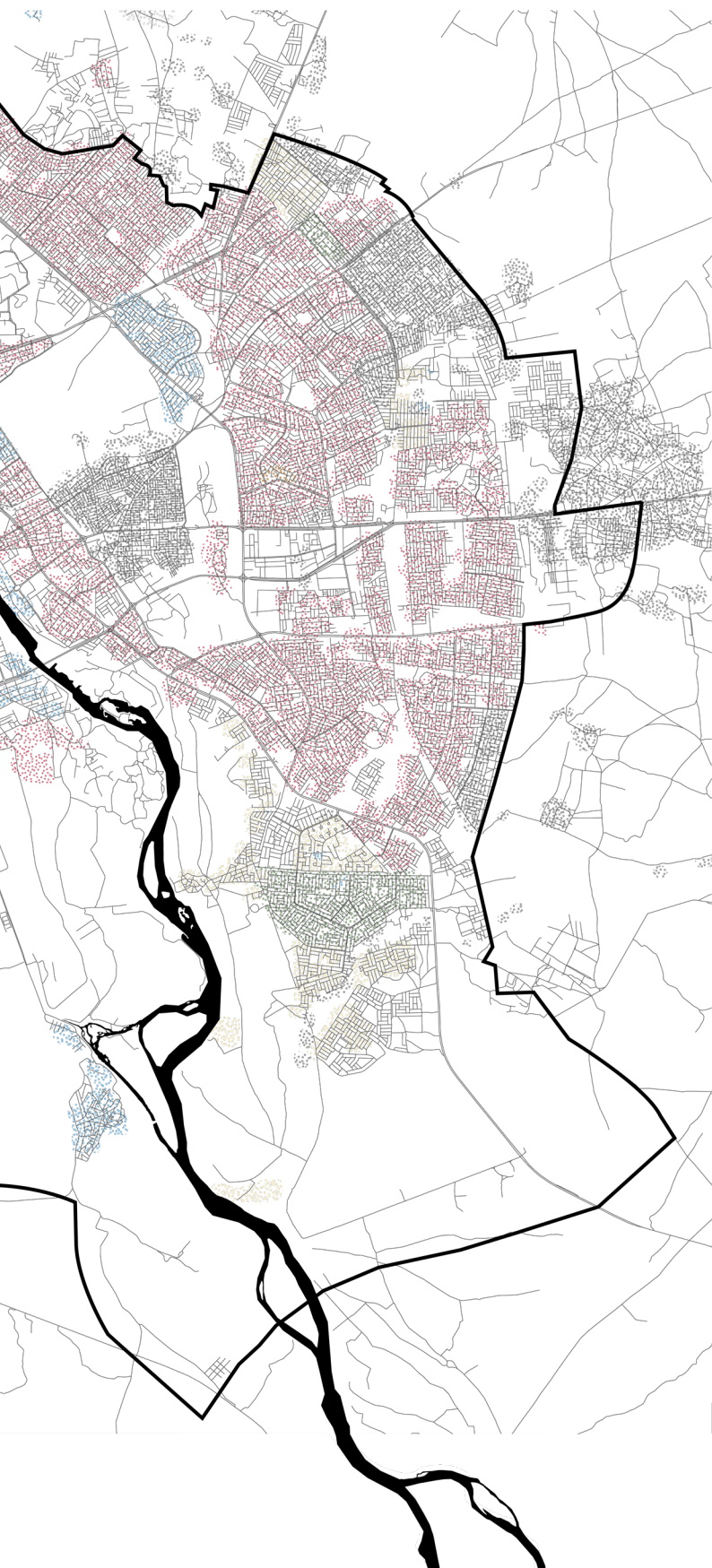




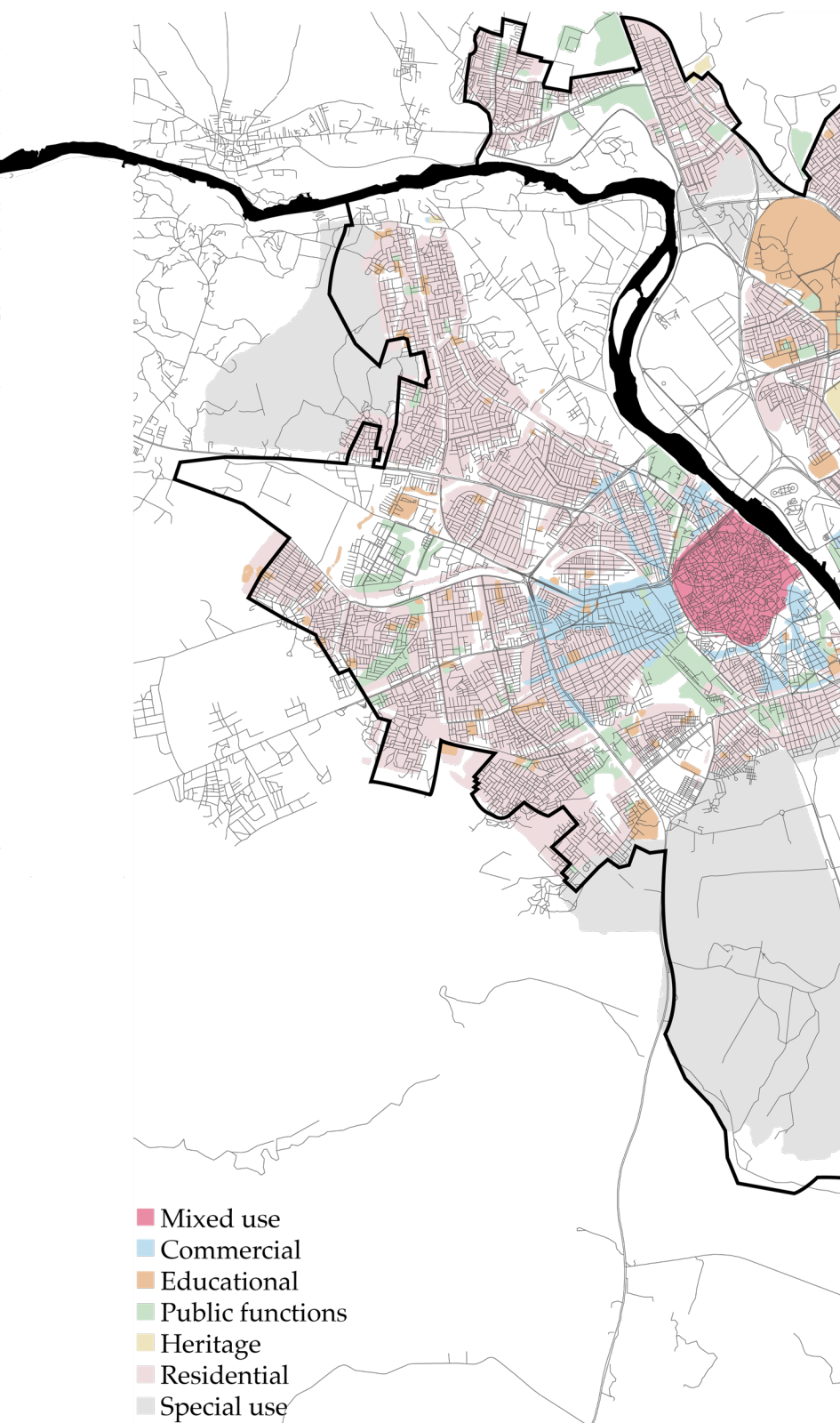


Mosul ethnic distribution.

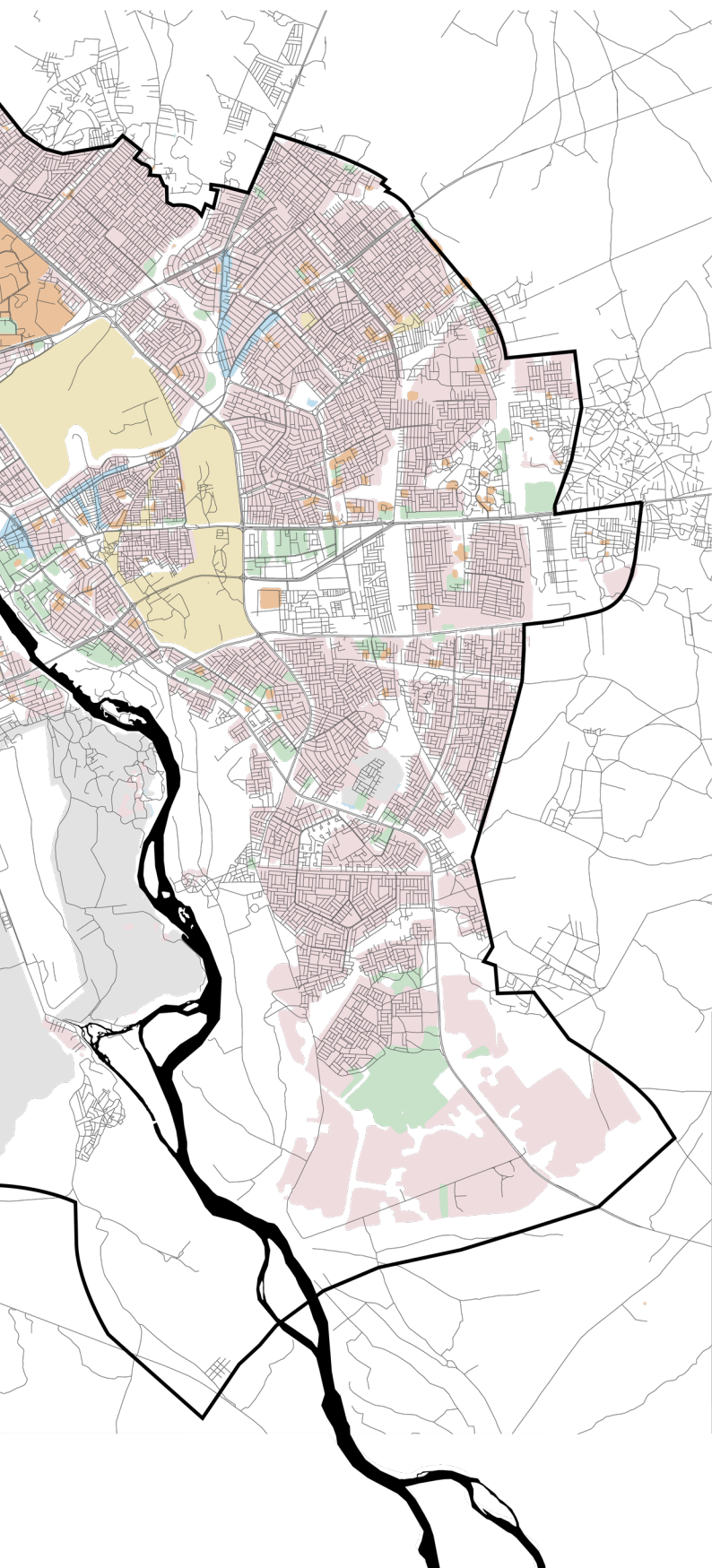
Source: *Izady Gulf2000.columbia.edu* 2010







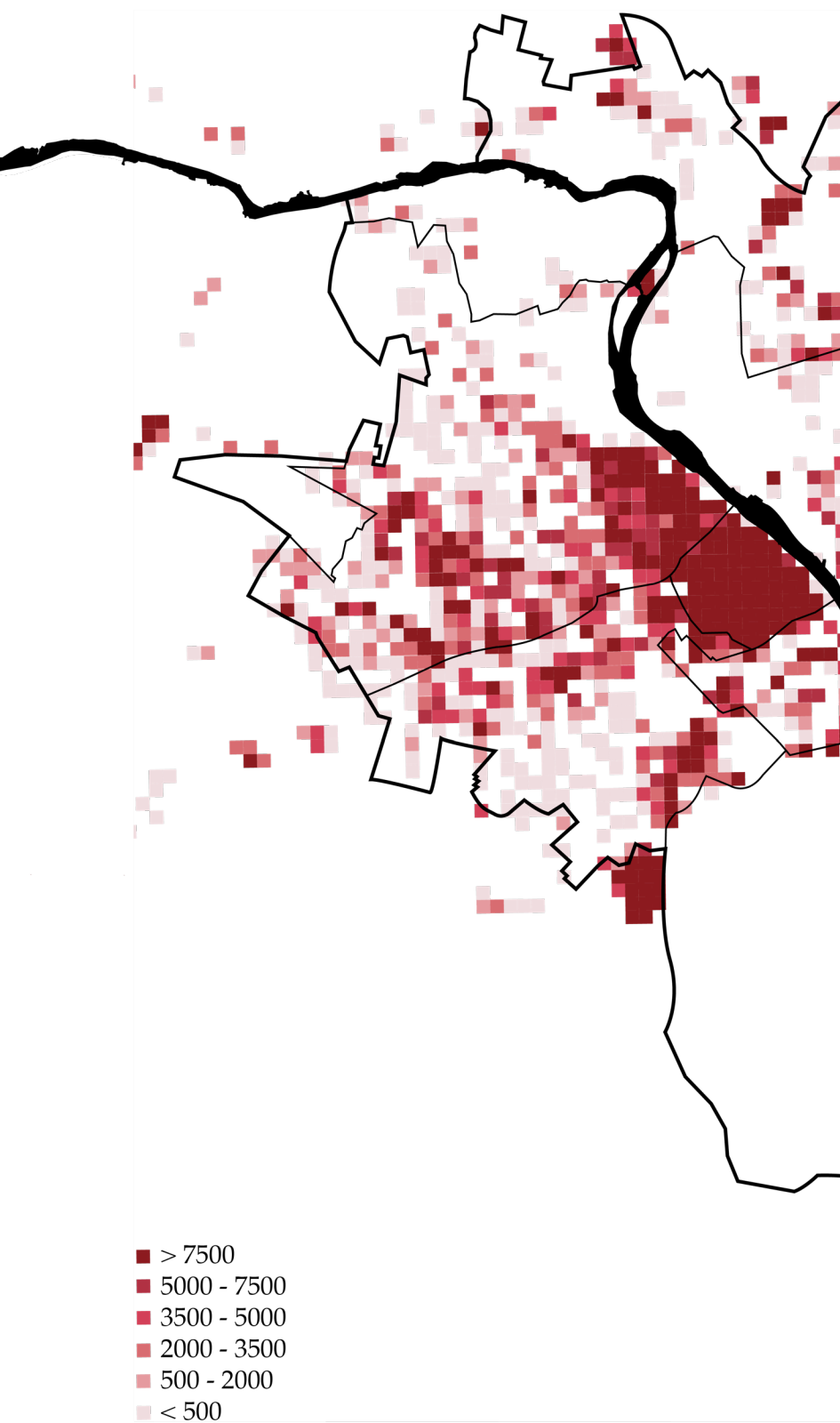
Mosul functional distribution.  
Source: UN-Habitat, 2016



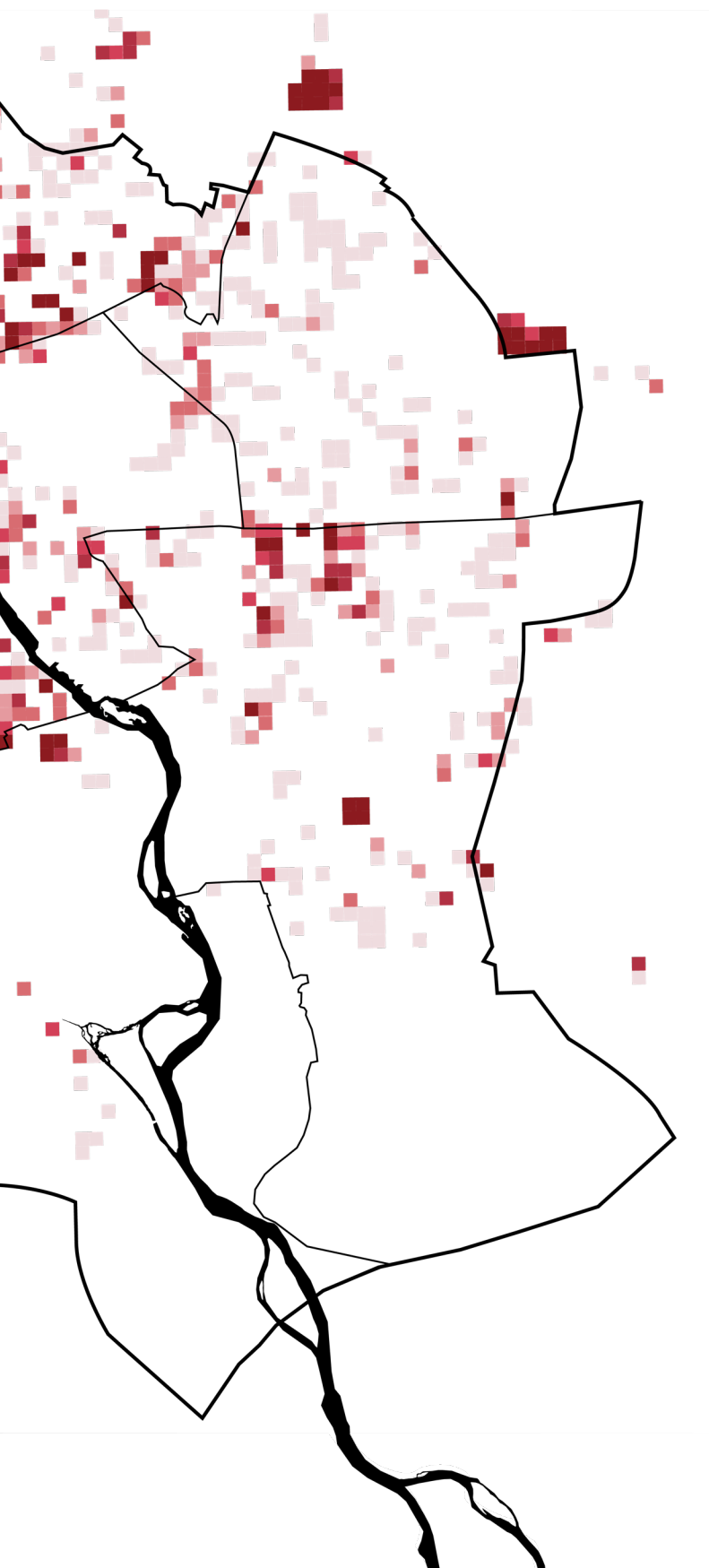
The data developed by UN-Habitat relating to the state of the multisectoral conditions of the city at the end of 2016 are dramatic. From the analysis of the maps related to these data, it is clear that the destruction of the war has affected every point of the city, every neighborhood has suffered damage regardless of its ethnic or functional composition. In particular, what is most striking is the map of the amount of debris left after the demolition of entire portions of the city. No place has been spared, but especially the urban fabric on the left bank of the Tigris River appears as a more or less homogeneous patch of ruins collapsed on itself and its heart, that is the old city, appears as the most annihilated area. Where before stood houses and shops, now there remains a cemetery where an inexpressible number of victims has been buried and not yet been found. From the overlapping of the maps, it is obvious that the state of immobility of the roads, schools, hospitals, energy infrastructure and any other sector considered, is directly proportional to that of the quantity of debris, or to the degree of destruction that a given area of the city has suffered. As far as the design strategy theorized by this research work is concerned, particular attention must be paid to two other types of maps. First, those that describe the state of conservation of public and religious buildings, to be able to select the place with the most likely number of areas suitable for inserting the temporary cell. Second, the maps on the activity of the schools, to understand where an empowerment hub is most useful and therefore more effective.



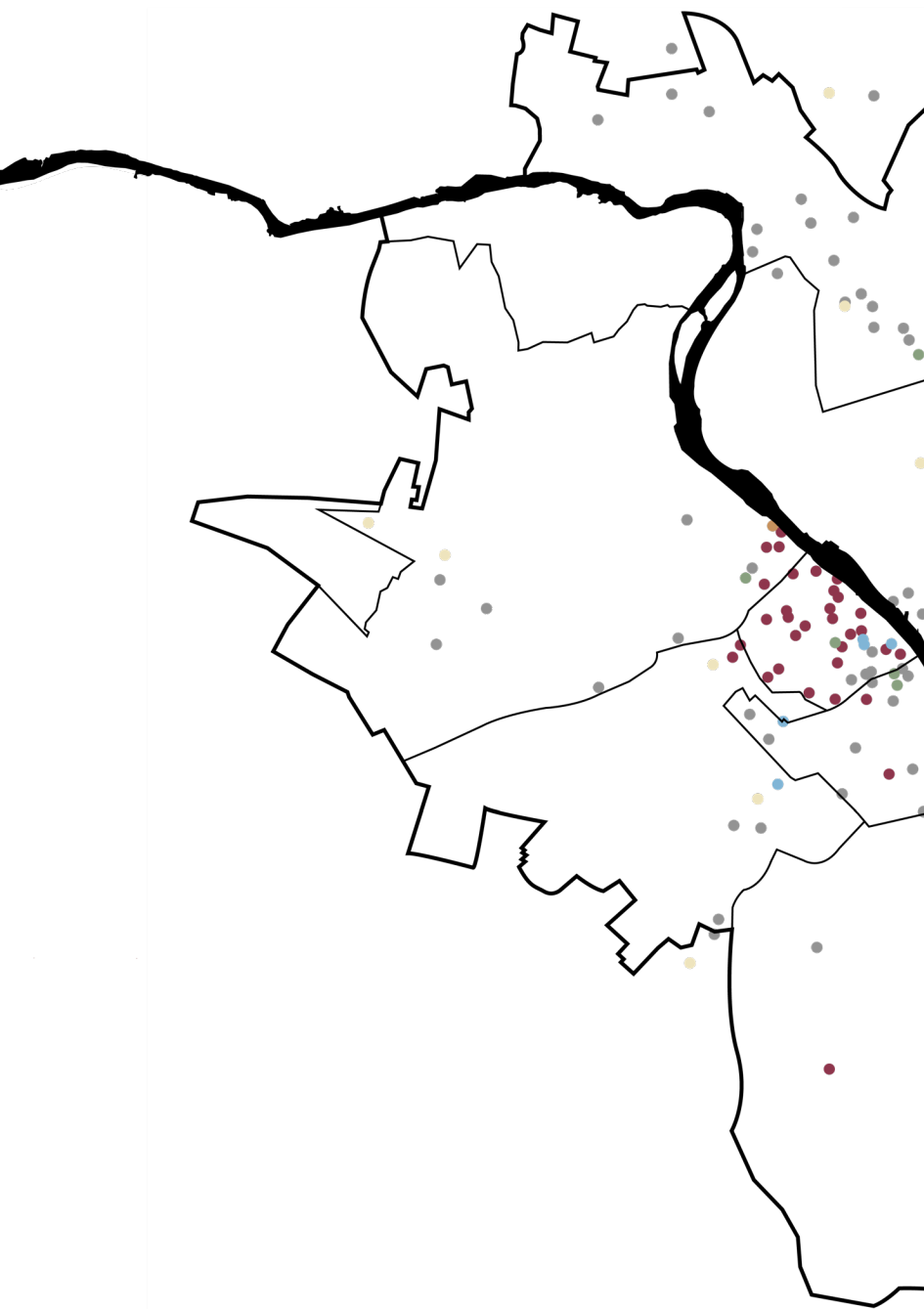
Smoke billows following an airstrike by US-led international coalition forces targeting Islamic State in Mosul.  
*Ahmad Al-Rubaye, AFP, 2017*



Preliminary estimated debris (ton/hectare) on July, 8th 2017.  
*Source: UN-Habitat, 2017*

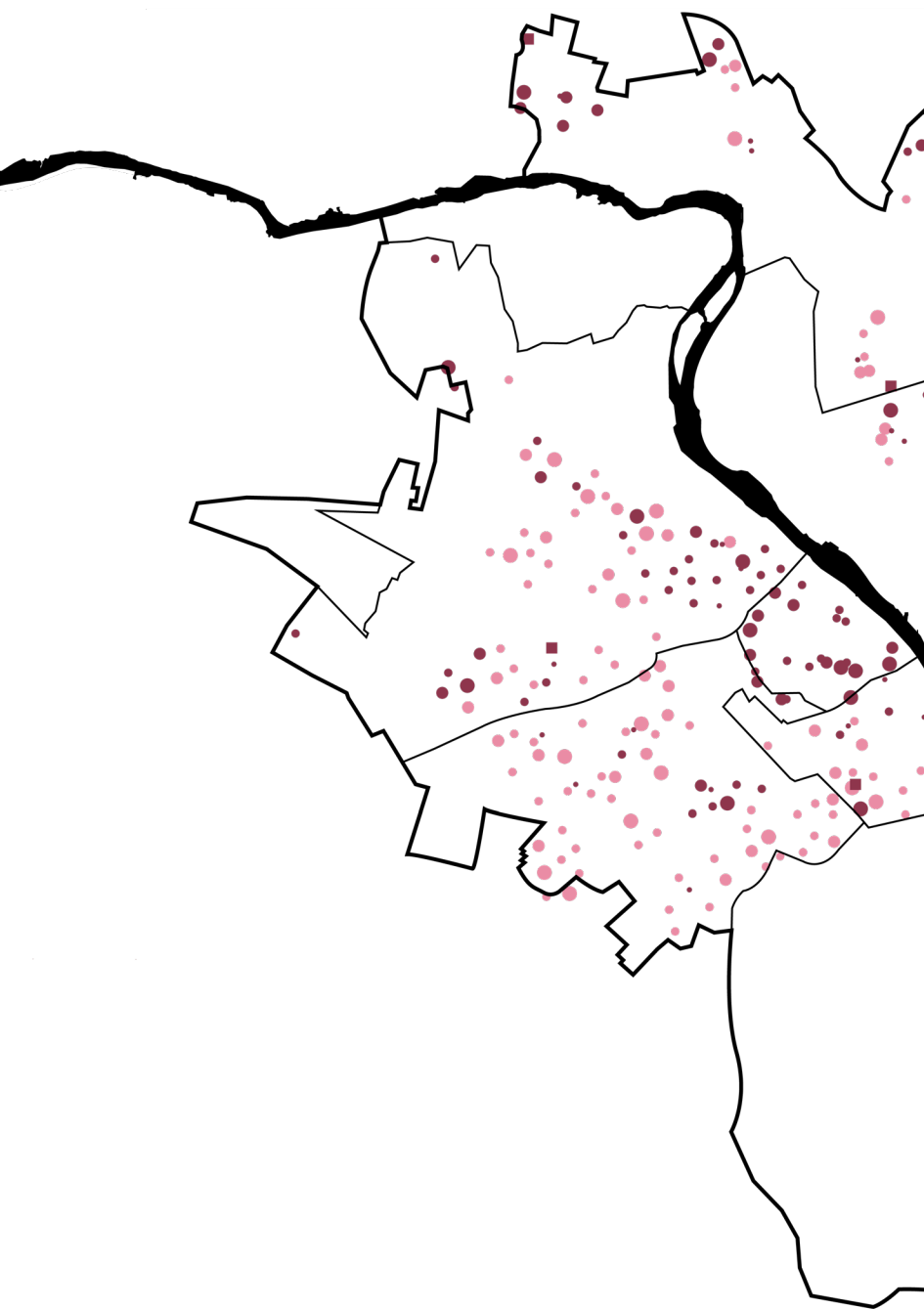






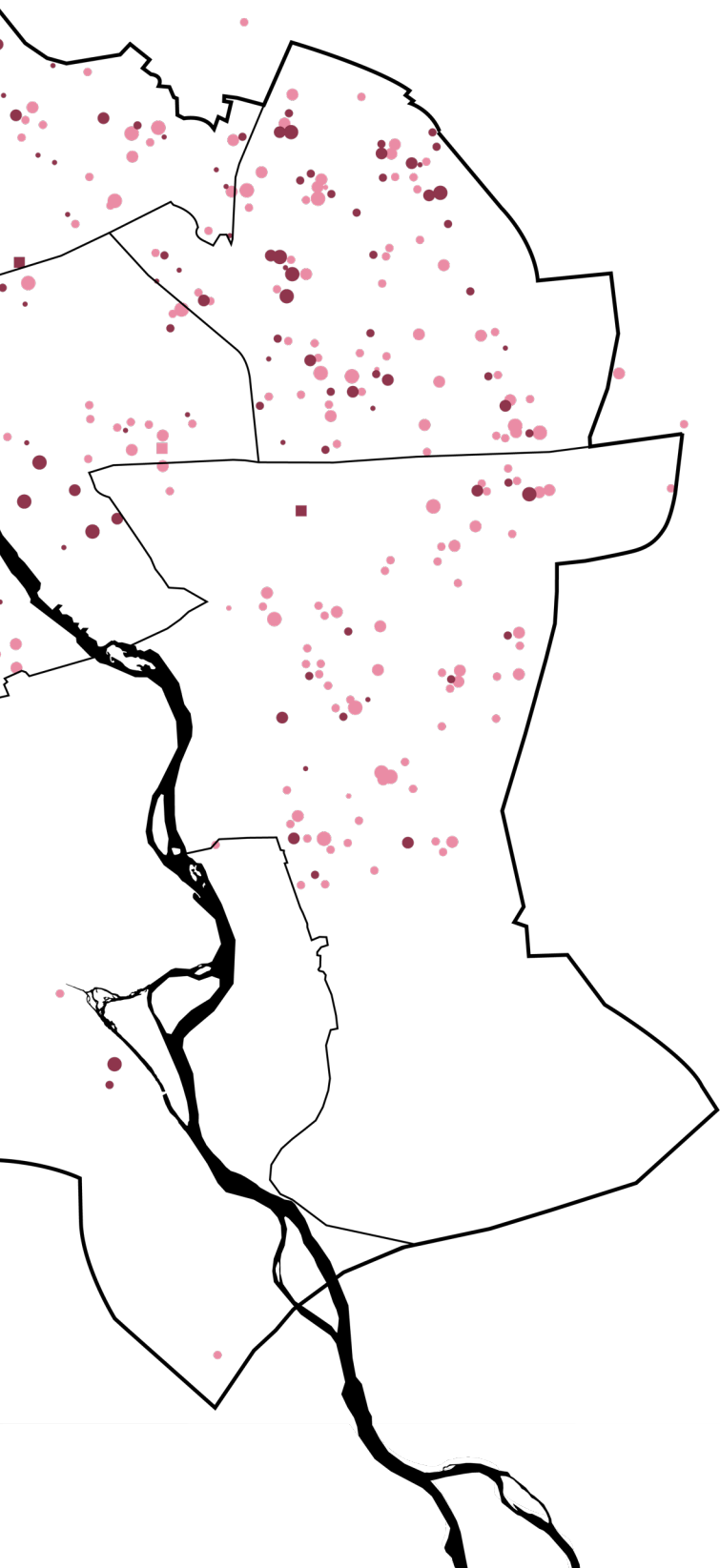
- Worship buildings
- Public symbols and open spaces
- Museums and cultural activities
- Archeological sites
- Government buildings
- Civil buildings

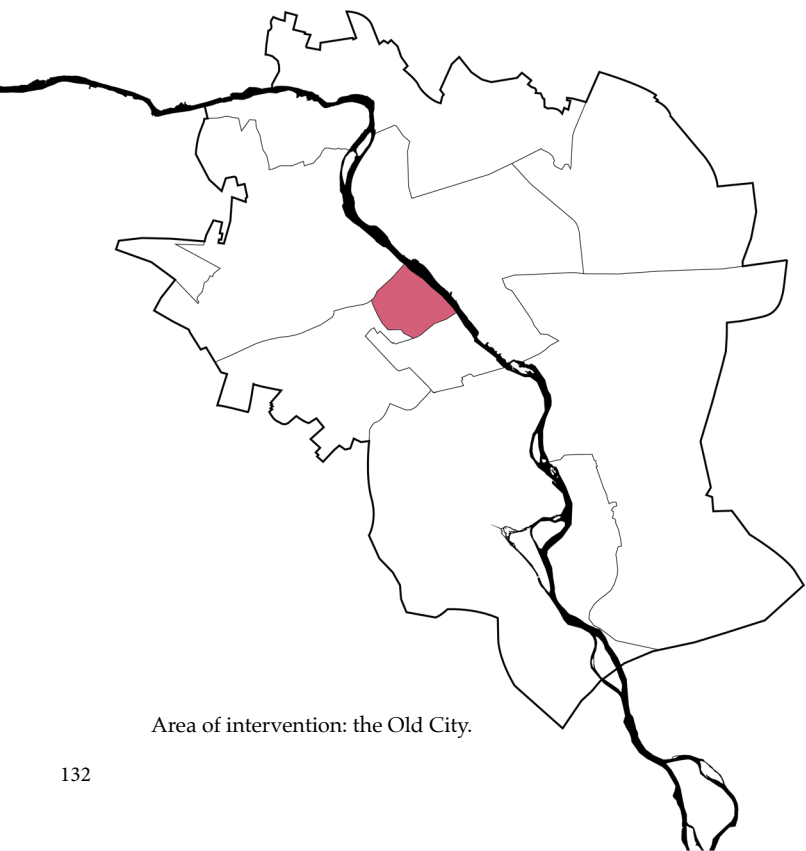




- Not rehabilitated
- Rehabilitated
- High school
- Secondary school
- Primary school
- Nursery school
- Vocational school

Status of schools recovery.  
Source: UN-Habitat, 2016





Area of intervention: the Old City.

So, it is through the overlap of the maps relating to the quantity of debris, to the state of public places and to the presence of active schools that the most interesting area in which to propose the pilot project for a first propulsive settlement was identified in the old city. In fact, from the intersection of the data, it resulted in the most damaged area by the urban guerrilla, where not only a huge number of residential buildings was destroyed, but also a large percentage of the heritage of the city of Mosul, causing inestimable losses from the view of the architectural heritage. Similarly, if school inactivity is a problem that unfortunately affects the whole city, the data show that at the end of 2016 the historic center is the only urban area that has not yet witnessed the reactivation of even a school.





General view of the destruction in Mosul's Old City in July 2017.  
*Ahmad Al-Rubaye, AFP, 2017*





### 3.2.2 Site selection: Al-Nuri Mosque

The historic center is the public space par excellence and helps to constitute the sense of collective identity (*Pistidda 2015*). This is particularly important because of the objectives set in this thesis and it adds to the useful reasons why it is appropriate to start the design strategy starting from an intervention inserted in the Old City. Thanks to the study of the data and the war dynamics that led to today's state, it is clear that the purpose for the destruction of the historic center, if compared with the other areas of the city, is not to be found neither in the specific demographic characteristics or in the mixed functional character of the historic center. Rather a similar result derives from its urban morphological characteristics and from how urban warfare developed. The old city has ancient roots that date back to its foundation in 637 AD of Muslim origin. A wall with nine doors surrounded it, bringing together mosques, schools, public streets, markets, and residences. Its morphology was composed of a continuous organic spatial structure, with narrow curvilinear paths that connected all the physical elements within it, reflecting the character of the traditional Islamic city (*Matloob et al., 2014*). Excluding the addition of the new broad axes of the twentieth century, the labyrinth of streets and alleys in the center was preserved in its original state to a greater extent than many other Iraqi cities, with very few influences derived from the modern era. There was a large part of the architectural heritage of Mosul, consisting largely of private residences from the Ottoman period. However, many of these were already in a state of abandonment even before the war and the destruction that followed. In general, the administrations have always given little consideration to the heritage of the city and this has certainly not helped to stop the disintegration of the population when a common identity base should have been set against the divisive narrative of fundamentalism (*The Oriental Institute, 2017*). Besides, it was the characteristic ancient morphological conformation of the historic center that

provided an excellent defensive bulwark for the ISIS militants, who were able to organize their resistance through the principle of urban warfare, fought between the buildings and the winding alleys of the old city, before being defeated. As already mentioned in the introductory chapter, this has led to unprecedented destruction of the old city, caused as much by mortar shells, kamikazes, and ISIS car bombs, as by air raids by allied forces.

UN-Habitat has monitored the urban changes in the historic center of Mosul during and after the liberation campaign through a public online database portal updated to October 2017. It is possible to find a mapping of all the damages suffered from the Old City, graphically divided between infrastructures, housing, and social services. This portal had the objective of becoming a guide for anyone who wanted to develop a targeted program to respond to the enormous problems, both the long and short term, in which the city of Mosul is located in the aftermath of the war (*Un-Habitat*, 2017). In this regard, the data contained in the portal are used in this thesis to select the areas within the old city suitable for grafting the emergency cells theorized by the project. Moreover, summarizing the characteristics required by the project, data from the UN-Habitat report relating to destroyed public and religious buildings are taken into consideration. To compensate for the gaps due to fallacious data and not updated, to produce analysis as precise as possible, it is decided to superimpose the data mentioned above with those of other two more specific sources about the monumental heritage of the old city. First, the mapping of all the most important monuments destroyed by ISIS in the old city in order to be able to circumscribe the areas with the greatest symbolic value (*The Oriental Institute*, 2017). Second, a study on Friday mosques, with their location in the historic center and how the urban conformation relates to them, in order to identify the most strategically appropriate solutions in terms of ease of achievement, intervention, and speed of infrastructure restoration (*Matloob et al.*, 2014).





Satellite photo of Mosul Old City before war.  
*Source: Landsat*









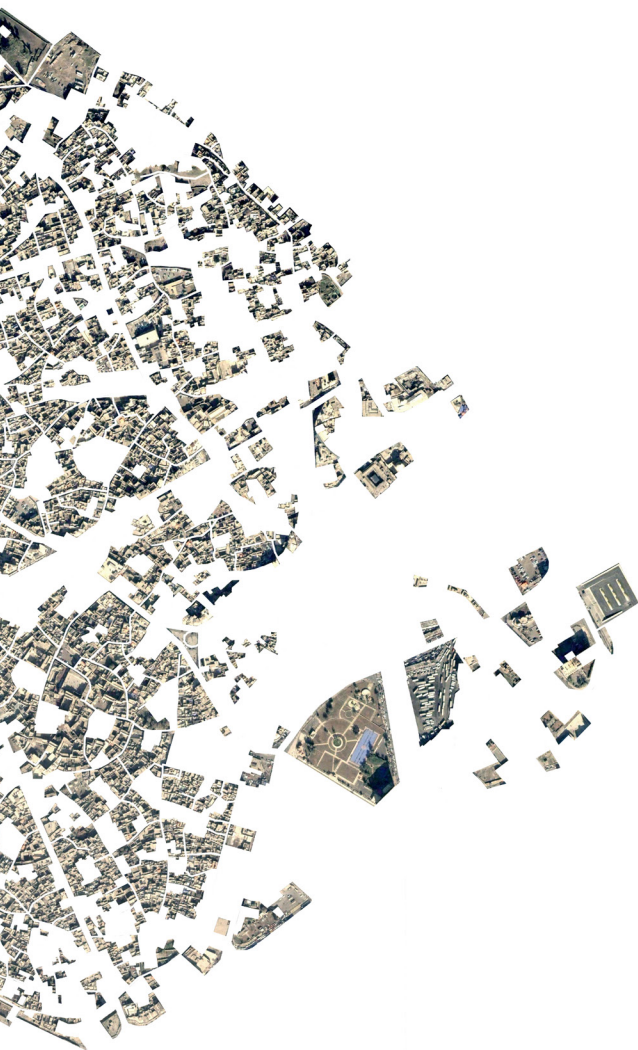
Satellite photo of Mosul Old City after the war.  
*Source: Landsat*



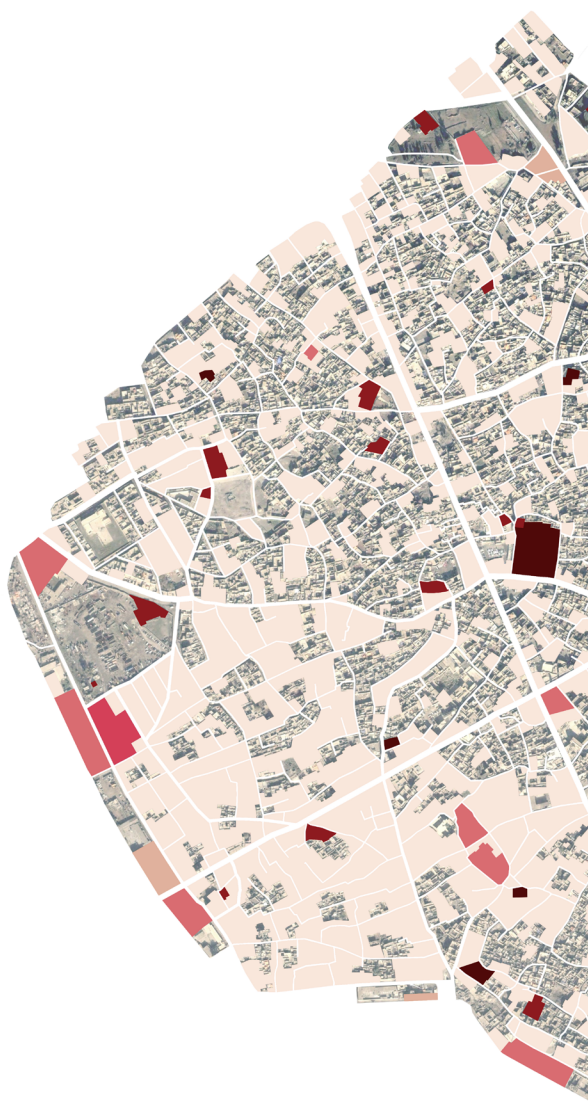




Old City areas still standing after the war.  
*Source: UN-Habitat, 2017*



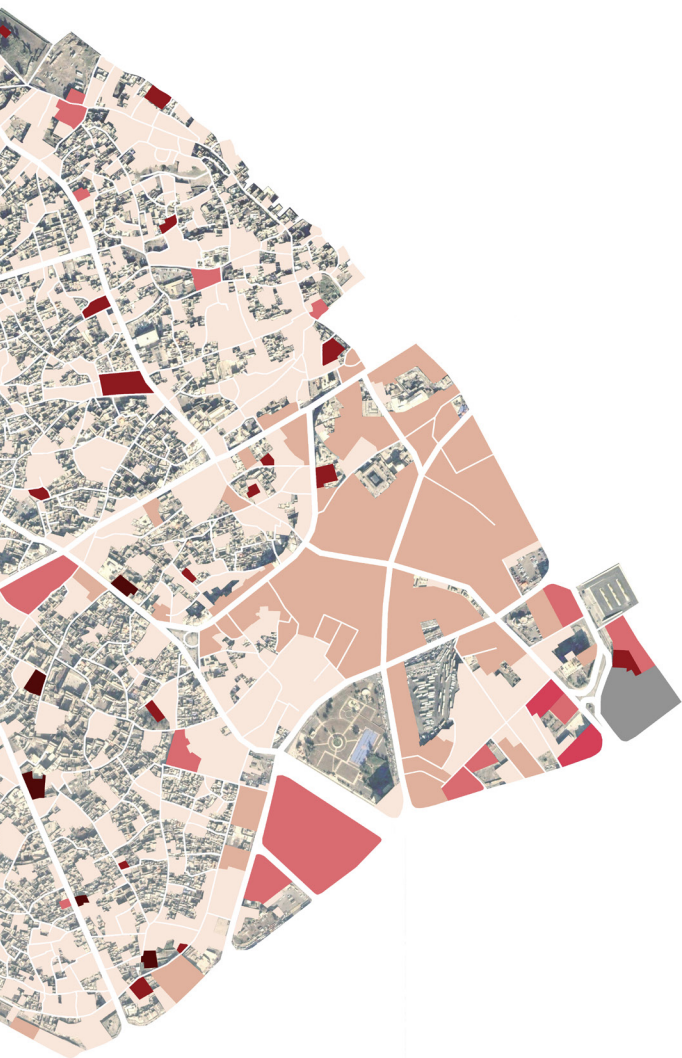




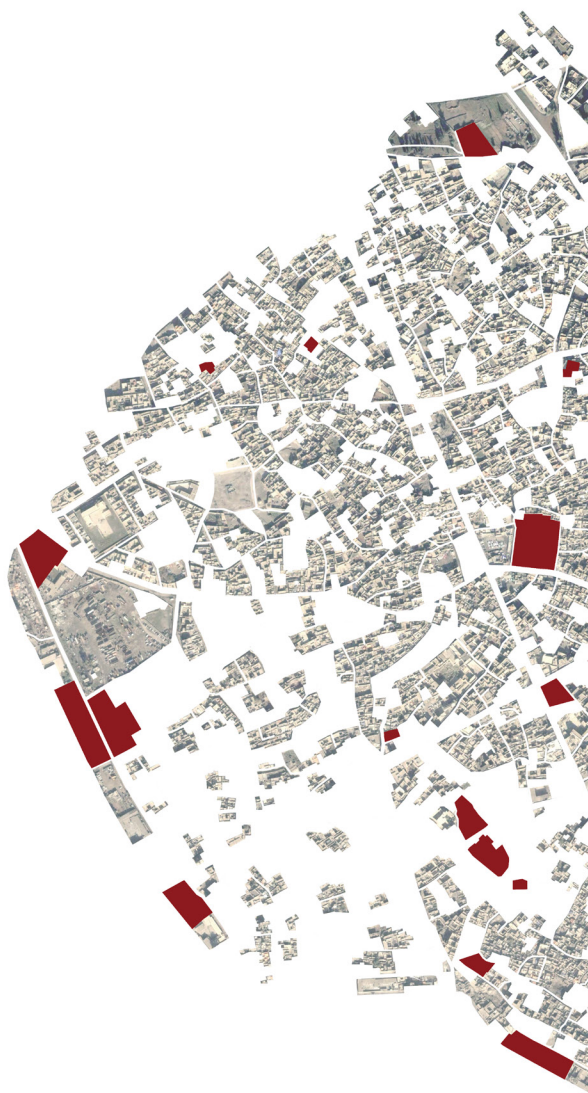
- Military and security facilities
- Religious buildings
- Heritage
- Residential buildings
- Public administration buildings
- Public facilities
- Commercial and industrial buildings

Functional distribution of destroyed areas.

Source: UN-Habitat, 2017



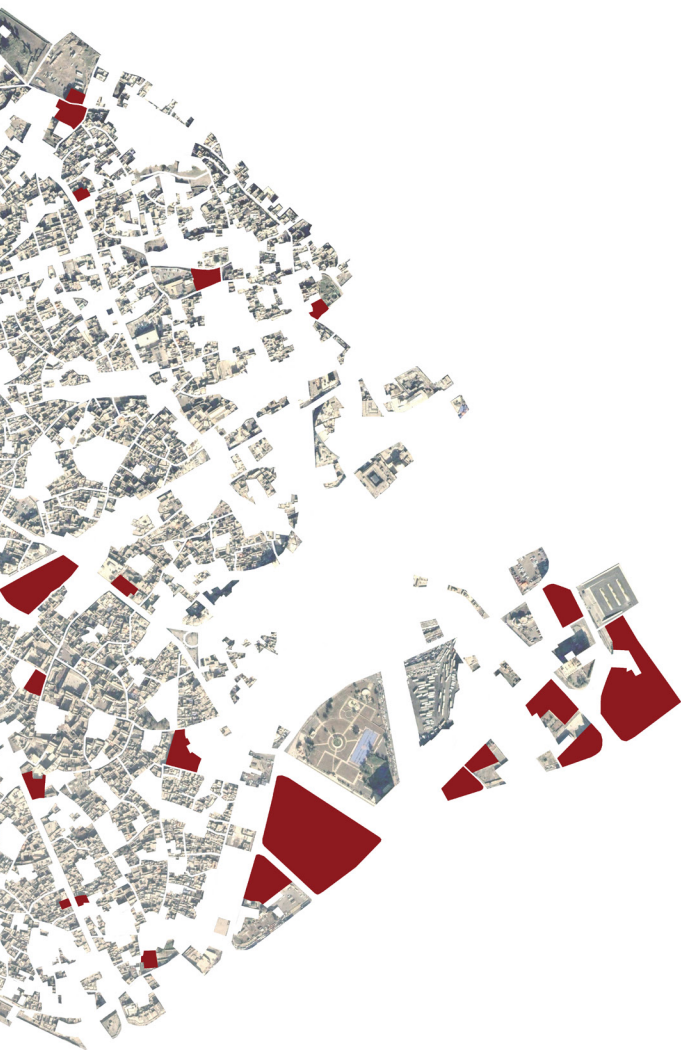




■ Destroyed public and religious buildings

Old city destroyed public and religious buildings.

Source: UN-Habitat, 2017



## Destroyed Monuments of Mosul

The ISIS war has been systematically moved to not only physically destroy the victims, but also to erase the memory and the popular identity connected to it. The demolition of the architectural and archaeological heritage of the city has caused serious and irreparable damage not only to the history of the Iraqi population but to all humanity that could be recognized in the legacies of those ancient societies, from which the entire contemporary civilization derives.

Mosul was among the Iraqi cities with the richest cultural heritage, and was famous for the opulence of its archaeological sites, historical, cultural and religious buildings and monuments, among which the ancient city of Nineveh and its inestimable value stand out, 486 Islamic monuments and mosques, 32 ancient churches and 6 monasteries (*UN-Habitat*, 2016).

After besieging the city, the militants began a systematic attack on the city's cultural heritage. All the artifacts that could be resold to finance the Islamic State were plundered from their sites of origin, while the rest was demolished or blown up. The internationally renowned collections of the Mosul Museum have been one of the greatest sources of income for the militia (*RASHID International*, 2016).

In addition, the ISIS was not limited solely to demolishing the monuments, but in the period of occupation of the city it carried out a real campaign of cancellation of any trace of the presence of the previous buildings, disposing of the rubble, covering everything with cement castings and turning millennial archaeological sites into parking lots or unused scars within the city. The Mosque of the Prophet Seth is a clear and impressive example, the three satellite photos taken at different times show the building before demolition, the building reduced to a pile of rubble, and finally completely razed and erased (*Oriental Institute*, 2017).



Tomb of Ibn al-Athir.  
*Source: [gatesofnineveh.wordpress.com](http://gatesofnineveh.wordpress.com)*



Destruction of the Tomb of Ibn al-Athir by Isis.  
*Source: [gatesofnineveh.wordpress.com](http://gatesofnineveh.wordpress.com)*





Immediately after the catastrophe suffered by the monuments of the city, global efforts began with the aim of saving what was possible and recording any, even the slightest trace of a past that would otherwise be lost forever. Among these, “The Oriental Institute” of the “Czech Academy of Sciences”, a non-university public institution, has activated the project “Monuments of Mosul in Danger” (*Oriental Institute*, 2017). It aims to monitor, map, analyze architecturally and historically and digitally reproduce the monuments victim of ISIS urbanization through 3D programs. Also, the project aims to analyze the ideological background that led to the destruction with the propagandistic aim of programming a strategy that can effectively respond to similar acts of destruction in the future.

All the data stored and produced by the Oriental Institute are published on the web page dedicated to the project, among which stands an interactive map showing the cataloging and location of all the monuments destroyed within the historic center. This map, in particular, is fundamental for the strategy pursued by this project, since it shows the most memorable places to be utilized and emphasized through the temporary settlement.

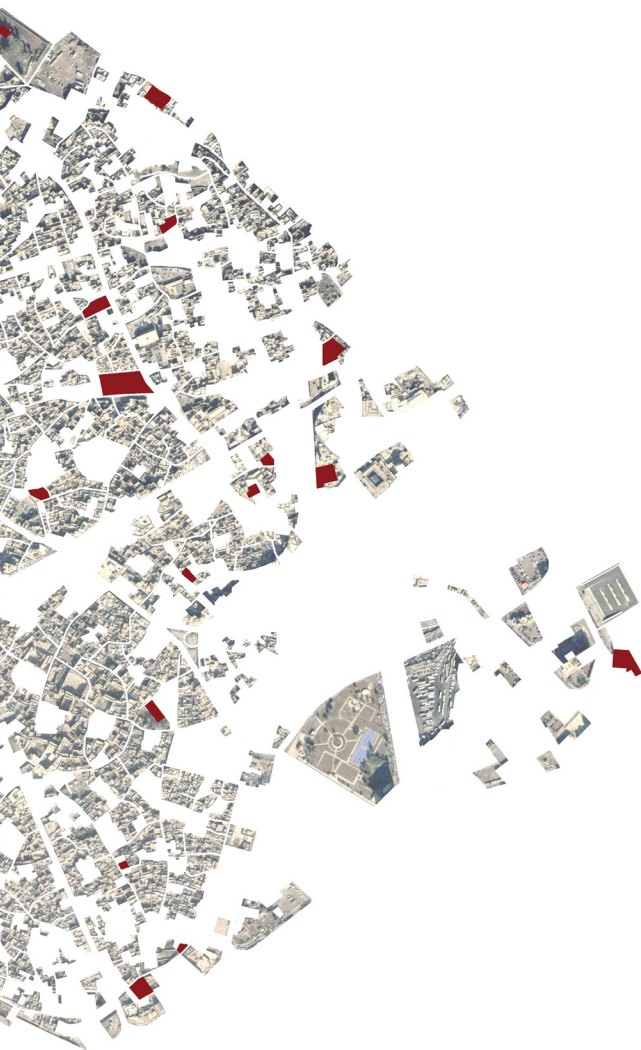


Process of deletion of the Mosque of al-Nabi Shith by ISIS from  
November 2013 to August 2015.  
Source: [www.monumentsofmosul.com](http://www.monumentsofmosul.com)



■ Destroyed heritage

Destroyed Monuments of Mosul.  
*Source: [www.monumentsofmosul.com](http://www.monumentsofmosul.com)*



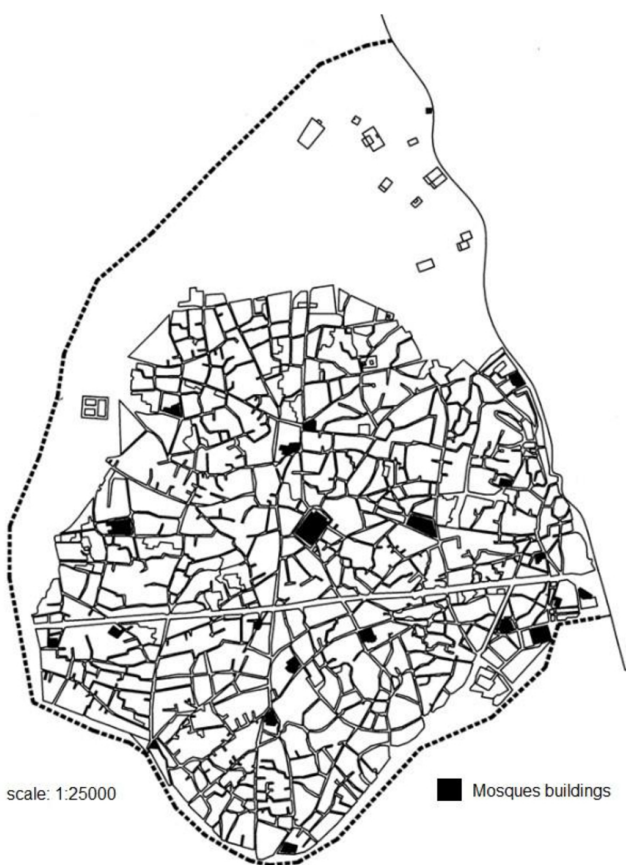


## Friday Mosques in the Old Mosul City

Mosul Friday mosques are the main and largest mosques of Islamic cities. In the past, they did not function solely as religious centers, but they also played a role as cultural and political centers. Looking at the morphology of the old city of Mosul, it is clear that the roads are often visually directed towards the mosque of the congregation showing that the distribution of religious buildings was not accidental, but had a very strong relationship with the urban conformation, appearing as poles of attraction for city flows (*Matloob et. al., 2014*).

Their preferential position within the urban framework of the old city is important for the project, both from a strategic and symbolic point of view. We have seen that it is preferable that the new settlements are located in places that are as central as possible from an infrastructural point of view, mainly so as to be on the one hand among the first points of the city to obtain the restoration of electricity and running water, essential for the proper functioning of temporary cells; on the other hand, places around which it will be more probable to find empty areas used for parking, or other, essential for the construction of centers for empowerment. Finally, considering the objective of transforming new settlements into centers of attraction and activation throughout the surrounding area, the central position of mosques and their relationship with the framework of the city is particularly optimal for this purpose. Just think of how the visual directions that characterize those places can serve to make the new settlements immediately recognizable and attractive even for the inhabitants who have returned to the city independently.

For these reasons, the sites of the buildings that, among the cataloged mosques, have been razed to the ground during the war will be among the best possible candidates for the placement of the new settlements.



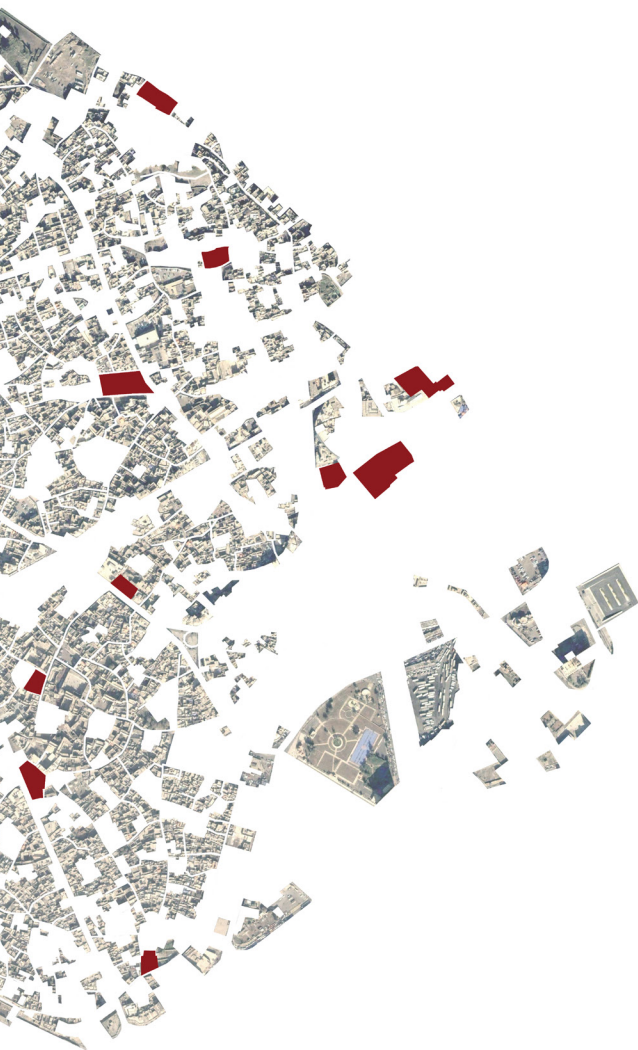
Friday Mosques in the Old Mosul City.  
*Source: Matloob et. al., The Impact of Spatial Organization on Locating the  
Friday Mosques in the Traditional Islamic City, 2014*



## ■ Friday Mosques

Friday Mosques in the Old Mosul City.

Source: Matloob et. al., *The Impact of Spatial Organization on Locating the Friday Mosques in the Traditional Islamic City*, 2014

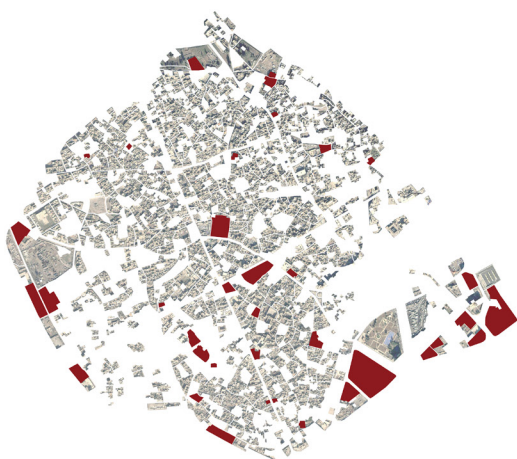
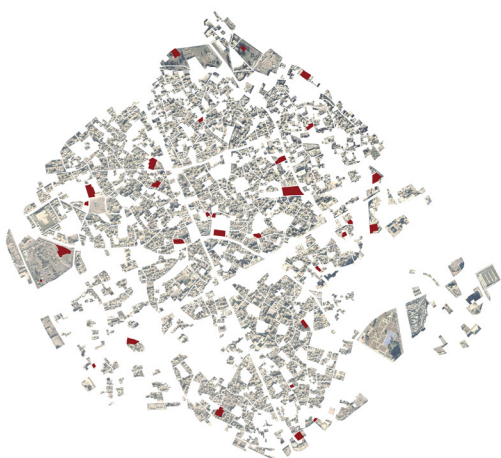


## Map overlapping

At this point, we proceed to overlap the three maps considered. Although the junction points are multiple, only those areas that are, on one hand, sufficiently large to group a certain number of IDPs are selected, on the other hand, surrounded by empty areas suitable for the future construction of the empowering hub.

Through this skimming, 9 areas are identified that could respond to all the needs posed by the project. Finally, among the selected areas the al-Nuri mosque is chosen as the site for the pilot project, essentially for two reasons: its enormous symbolic value, both in being a monument symbol of the city before the war, symbol of the Caliphate after and for the vicissitudes that led to its destruction in the last instance, which makes it a useful limit case to experiment with solutions potentially available in any other suitable area of Mosul, and the related quantity of materials available, incomparable with that of any other monument analyzed.



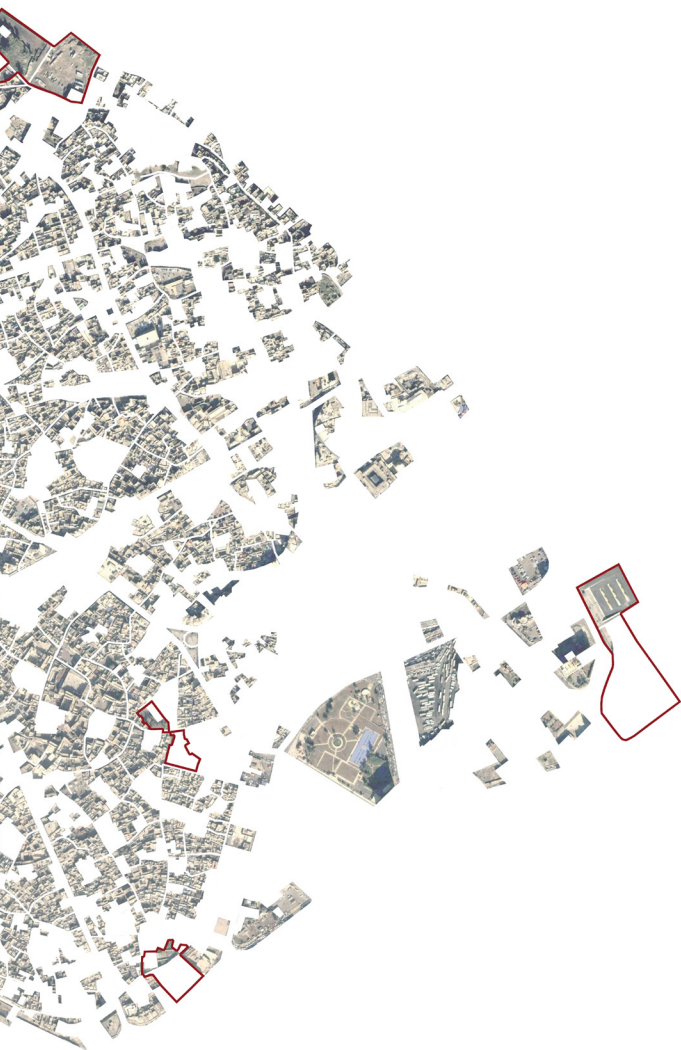


Overlapping of the Mosul Old City's data.



- Suitable areas for settlement
- Selected site: Al-Nuri Mosque

Potential areas for the pilot project and selected site.







Potential areas for the pilot project and selected site inside the Mosul Old City.







## Great Al-Nuri Mosque

The Great Mosque of Al-Nuri was undoubtedly the most iconic building within the architectural heritage of Mosul. Built between 1170 and 1172, it was subsequently rebuilt several times and finally demolished and replaced with its latest version in 1942. One of the features that made it famous is the minaret, called al-Hadba, or “Hunchback”, due to its characteristic inclination.

Unfortunately, its central importance within the history of the city was further strengthened by two dramatic events that profoundly marked the recent history of Mosul. First of all, on 4th July 2014, from the pulpit of the mosque, Abu Bakr al-Baghdadi announced the birth of the Islamic State during the Friday prayer. Subsequently, the moment in which it is the main body of the Mosque, with its characteristic green dome, and the very ancient minaret were voluntarily exploded by ISIS on June 21st, 2017, just before the city was finally regained (*The Oriental Institute*, 2017).

Today the Al-Nuri mosque looks like a pile of rubble. With the explosion, many neighboring buildings were completely razed to the ground or seriously damaged, with mountain debris covering everything. Only the dome, dramatically dismembered on the western side, part of the monumental access portal and the base of the al-Hadba minaret remain in the memory of the presence of the Great Mosque.

The United Arab Emirates, UNESCO, and Iraq have signed a historic agreement that states that the Emirates will donate a huge sum, over \$ 50 million, to help rebuild the cultural and architectural heritage of Mosul. This fits into the “Revive the Spirit of Mosul” project presented by UNESCO on June 30, 2018 (*Amelan*, 2018). This project provides that the first monument to be rebuilt is precisely the Al-Nuri Mosque, intending to bring to life the iconic symbol of Mosul and create new work. However, many inhabitants are not happy with this choice, arguing that the funds dedicated to the intervention may be more useful in the



Overlapping aerial photos of the Al-Nuri mosque area before and after the war.  
*Source: Landsat*

works aimed at re-establishing acceptable living conditions in the city (*Ingber, 2018*).

About this delicate subject, this thesis project chooses to take a strong position, opposing the proposal of UNESCO by virtue of a solution which, based on the theoretical research carried out, is considered more suited to the situation.

In particular, it was previously seen that during a war a monument can change its symbolic value within the identity of a city. It would, therefore, be utopian to think that the al-Nuri Mosque in the minds of the citizens still has the same meaning. After being home to the birth of the Islamic State, after suffering a long siege and being detonated in order to leave a last deep wound in the city of Mosul, it is now more probable that it will be linked to painful memories difficult to erase. To this end, despite the pragmatic skepticism of those who do not believe in the need for economic spending to intervene on the ancient building, the project proposes a new option that undoubtedly invests in the value connected to the memory of Al-Nuri for the beneficial effects that this could bring about in a peacebuilding process, but it freezes its appearance at the present time rather than trying to bring it back to an unrepeatable previous state.

Taking this into consideration, we proceed to select this area, which measures approximately 7000 square meters, surrounded by about 5000 square meters of empty spaces previously used for parking to establish the temporary cell, by overlapping a standard modular framework to be adapted then to each location.



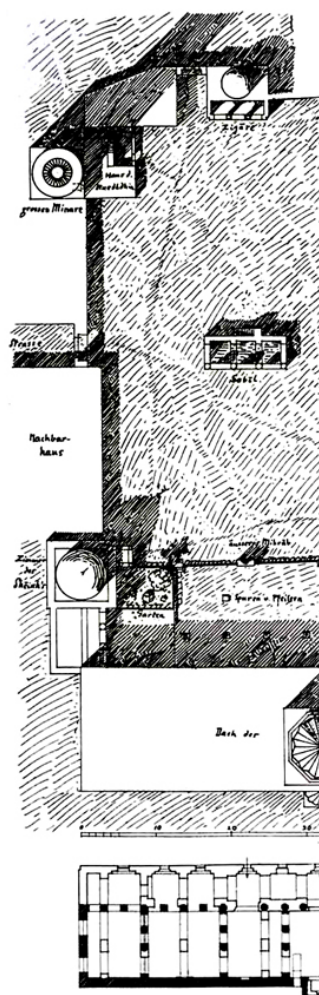
Smoke billows next to the remains of al-Hadba minaret.  
*Erik de Castro, 2017*



Exterior from southeast of the Mosque of Al-Nuri, 1930.  
*Source: [archnet.org](http://archnet.org)*



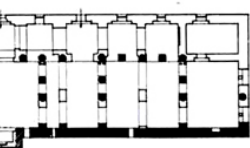




Plan of the Mosque of Al-Nuri, 1915.  
Source: *archnet.org*

Tafel LXXXVIII.

Bachherhäuser





Plan of the current state of the Al-Nuri site.



Scale 1:1000





The gate of Al-Nuri Mosque after the destruction.  
*Ivor Prickett, 2017*







Fleeing Iraqi civilians walk past the destroyed Al-Nuri Mosque.  
*Felipe Dana, 2017*



### *3.3 Temporary Emergency Cell*

The main concepts to keep in mind when planning the settlement are summarized below:

Initially, a “top-down” approach where the general strategy is conceived by a multidisciplinary group of specialists through a global study of the reference context.

Insertion of the cell within the urban tissue to avoid problems due to IDPs permanence in the camps and to obtain beneficial effects both on population and city.

Responding to an emergency, therefore it must be quick to assemble, economical and adaptable.

Temporality to respect the aim of making the population return to their homes and dispel the risks of permanent insertion of a foreign project.

Contextualized architecture to avoid the risk of population rejection and exploit the identity power of memory connected to the city and its heritage.

Flexibility to adapt to the area in which it is inserted and subsequently develop according to the specific characteristics of the site.

Permeability to be exploited equally both by returnees established within it and by citizens returning independently to the city houses.

Participation of the population in the self-construction of the settlement and planning of the next phase.

Opportunity to expand into empty areas where it is possible to develop permanent functions in the next phase.





### 3.3.1 Construction Method

The construction method chosen for the framework is that of a temporary and light reticular structure with beams and pillars capable of expanding to occupy all the present free space, enveloping the remains of the monuments. This wants to be raised in order to allow partial disposal of the rubble in the site before the settlement and to continue to work even in its presence.

The supporting reticular construction can be composed of two different structural system: from standard aluminum reticular modular prefabricated beams and pillars, or from the so-called “ecobeam” method, that is made by a structure of linear elements composed of wood and recycled iron, which have the great merit of being able to be self-produced on the site thanks to the reuse of material extrapolated from the enormous quantity of rubble (*Kracht, 2009*).

The designed module measures 4x4m, selected to find the right compromise between a habitable space that can be declined in many different ways, and at the same time a structurally stable and compact one.

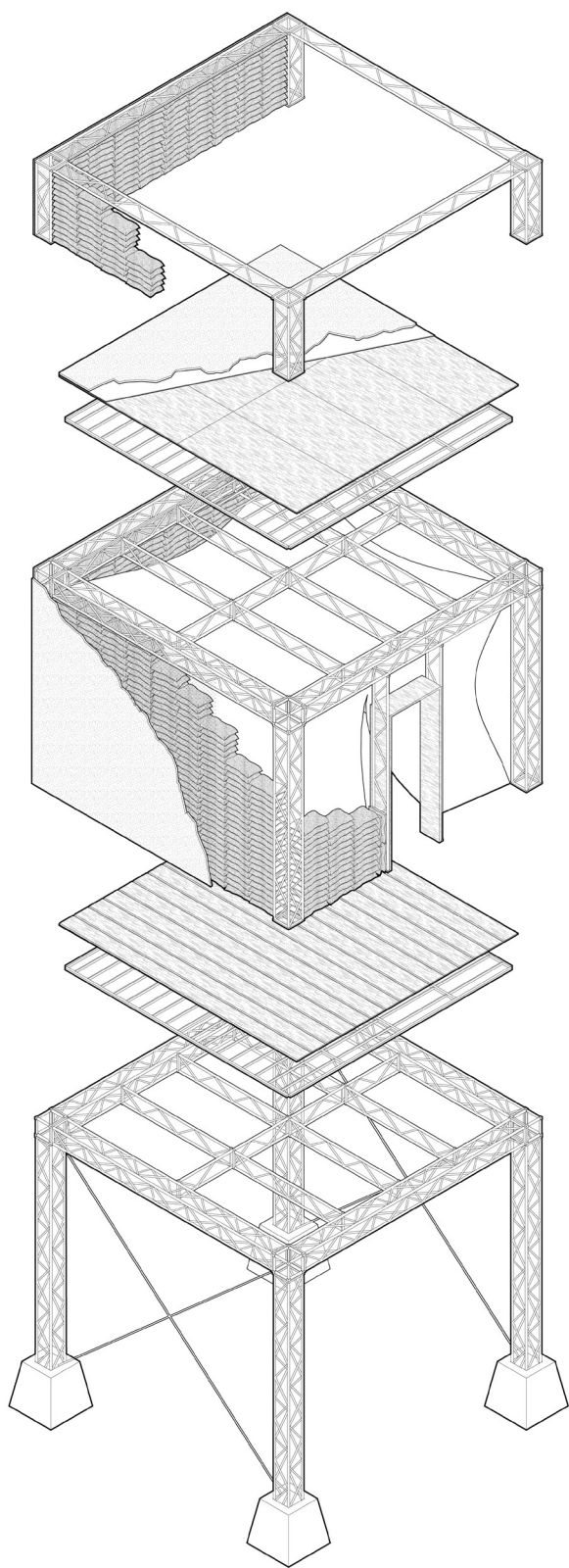
Each module is neatly formed of a first structural level, supported by a system of temporary punctual foundations, prefabricated or built with the recovery of the site materials, a platform that serves as a paving for the actual settlement, and finally a maximum of two overlapping rooms to house both houses and any other function of the settlement. To dab the walls that bound the various rooms, at first it uses curtains anchored to the reticular structure, while later it is proposed to use the “sandbag” method (*Kracht, 2009*). It, developed together with ecobeam, is a system already widely tested both in underdeveloped places and in critical situations where conflicts or natural disasters have led to a situation of limited resources, and an enormous amount of debris to be disposed of. The “sandbag” method involves the use of fabric bags filled with the abundant local resources of soil, sand, or, as in the case of the project,



Bags filled with sand used to build up walls for buildings  
*Source: Stefan Kracht, The Sandbag House.*

crushed rubble. The bags are superimposed to form limited infill walls, beaten, compacted and finally covered by a thin metal mesh and a layer of plaster. The great potential of such a method lies not only in the possibility of using local raw materials, both from the point of view of simplicity of retrieval, and from that of contextualization of the project, but above all in its reversibility and ability to be able to reuse the bags of sand in other situations once they ceased to serve their previous purpose. Sandbags have excellent thermal and acoustic insulation capacities and, also, in the case of the pilot project proposed by the thesis, this construction system can be an effective way to contribute, even minimally, to the great problem of disposal of debris (*Salah, 2018*).

Note that even from a symbolic point of view this method has a strong value in functionally reversing a construction system that is normally monopolized by the architecture of war. Walls composed of sandbags are mostly used as trenches or forts in war, so the fact of reusing them in a post-conflict situation to facilitate reconstruction, brings with it a strong and clear signal, it wants to show how architecture can have the power to work in order to obtain peace.



Module's stratigraphy and construction method.



### 3.3.2 Morphology of the cell

In any temporary camp developed according to the UNHCR guidelines (*UNHCR, 2007*) it was decided to use the system of a grid at a strategic level for quick installation of the settlement. However, this solution is not very efficient considering the negative effects that it brings on the inhabitants. What should be a short-lived space turns into a sort of permanent city, where the grid becomes the representation of a non-characterized, non-symbolic and amorphous space that does not contribute to repairing a common identity in the inhabitants (*Diken, 2004*).

A different case is the one represented by the western Sahara camps. They have the unique peculiarity of not being controlled by external agents but self-governed by the host population. In this case, the grid has a different connotation, since it represents the expression of the balance between the need for efficiency and speed and the context in which it is inserted, changing over time according to the local conditions with which it occurs. For example, in this regard, it becomes very interesting to observe how different camps, with the same hosted population, geographical location, and date of foundation, have developed completely differently depending on local topographic conditions, but also due to weather events and punctual or social dynamics that have developed independently in each one of them (*Herz, 2013*).

In the designed pilot project, the experience of the Saharawi people can be learned by hypothesizing the planning of a settlement that anticipates any future physiological changes of a homogeneous and standardized basic structure, developing a grid that takes into account the local morphology and the urban hierarchies present in the area.

In this regard, the urban morphology of the historic center of Mosul will be superimposed on the regular, orderly and efficient structure of the UNHCR standard camp. The planning of temporary settlement must in fact consider the urban fabric in which the new “stem cell” will have to be injected without the risk of being “rejected”,

exploiting the pre-existing context as an opportunity to weave a relationship with the common identity of the whole population of Mosul and participate proactively in the transformation processes activated by the propulsion system (*Pistidda, 2015*).

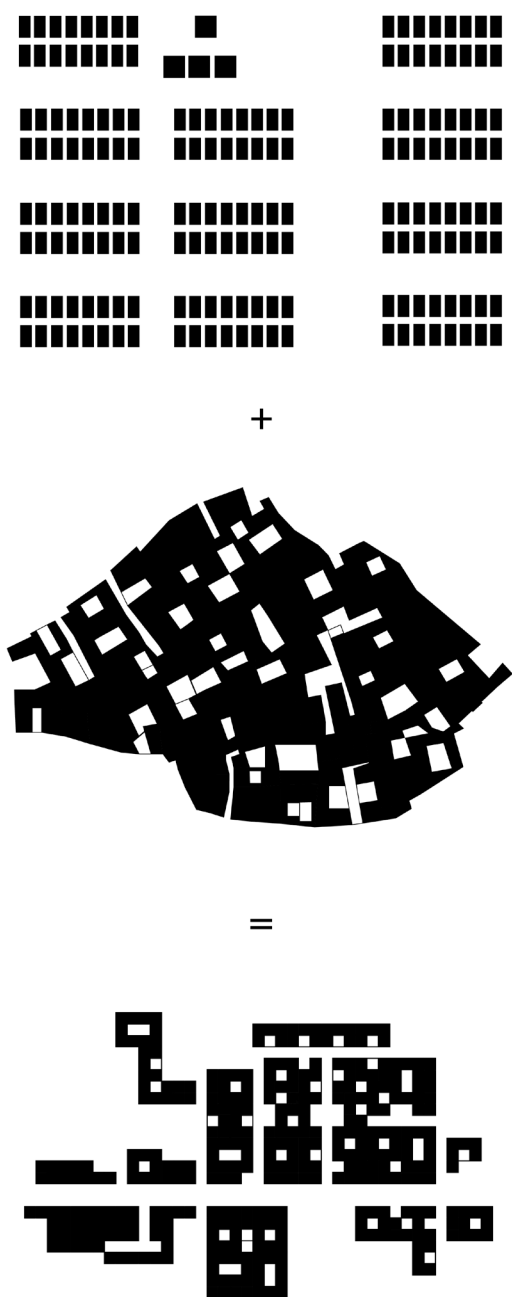
The overlap of the two systems is developed in two complementary ways: on the one hand, through a typological declination of the urban fabric of the old city within the project, in particular with regard to the residential buildings of Arab matrix; on the other, through the development of the settlement in time, in its construction process, related to the morphology of the project site and the monumental ruins.

A typological analysis of the residences of Mosul shows that the urban fabric of the Arab city has developed through the formation of dense and compact living clusters, able to resist the scorching heat thanks to narrow and, consequently, almost permanently shaded, alleys, and introspective residences, developed around patios, to cool the home thanks to the “chimney effect”. Although this system may be socially adverse to public cohesion to the Western eye, it is actually strongly based on the relationship between neighbors, since almost all the perimeter walls of a residence are necessarily a shared property with that of someone else. In some cases, they are the result of formal planning before construction, but usually, they are the result of an informal agreement that requires a certain degree of social harmony (*Petrucchioli, 2007*).

Starting from this assumption, the planned urban system maintains both the regularity, efficiency and speed of installation of the grid used in the UNHCR camps for the positioning of single-family tents, and the Old City typological characteristics. The result is a regular, standardized and modular settlement, in which, however, temporary buildings are constructed in such a way as to be arranged into compact clusters, subdivided by hierarchically ordered Arabic paths, passing from wide collective streets to intimate residential cul-de-sacs. Also, the risk of fire, one of the reasons that require the standard camps formed by separated single-family tents form, is avoided in this case thanks to the materials used, thus allowing the retrofitting of the residential modules one on each other.

A morphological analysis of the Al-Nuri Mosque area, instead, is used to plan the development of the settlement both for its functional distribution and for the generative process.

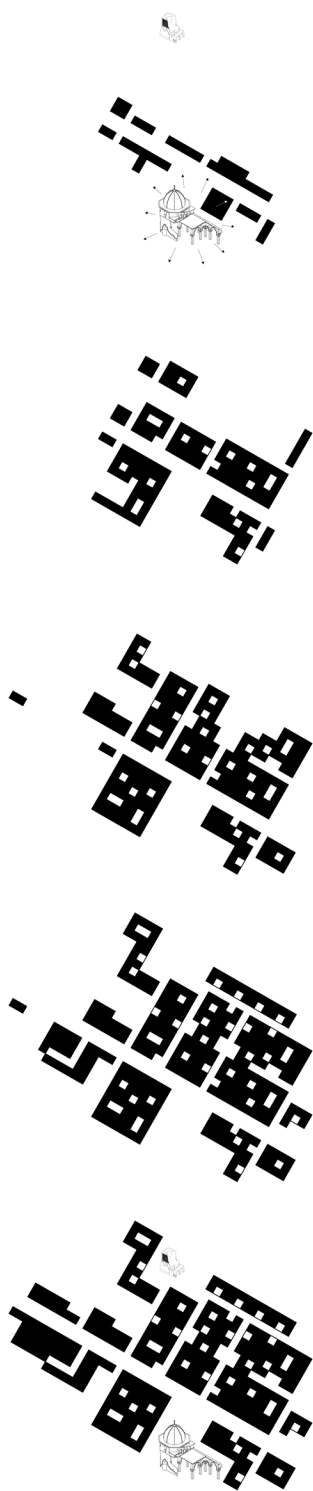
We have already talked about the fact that the choice to place the temporary cell above the monumental demolished sites was made not only to occupy an area free from destroyed private residences, but to work on the very strong memorial



Overlapping of the camp grid with the morphology of historic center of Mosul.

value of places like the Great Mosque, a common fertile ground where to grow a new internal cohesion in society, based on a common past and identity. For this reason, even at the morphological level, the form of the settlement develops primarily starting from the ruins (if present) in order to focus on them the social life of the cell, both by positioning the collective functions as close as possible to the monuments, both recreating a system of visual axes converging towards them. At the same time, it is developed trying to relate to the traces marked by the existing roads, sometimes overlapping them, sometimes prolonging their layout. The generative process, instead, is developed similarly by assembling the temporary cell starting from the installation of the modules next to the ruins, in the specific case around the dome of the mosque. These modules will initially host the collective functions, along with the first ascension systems, so that they can immediately begin to be used by people who have already returned independently to the city. Subsequently, we proceed with the expansion of the settlement, installing other ascension systems to the extremities of the monumental area and proceeding to its total occupation through the framework of beams and pillars dedicated to the real residences, whose construction will allow the arrival of the citizens re-settled and effective activation of the cell. Finally, the settlement is expanded to occupy the nearby empty areas, in fact going to pre-set the structure that will serve subsequently to the construction of the centers for empowerment.





Genesis and development of the settlement starting from the ruins  
and the morphology of the site.

## Typological residential study

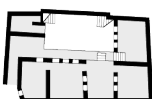
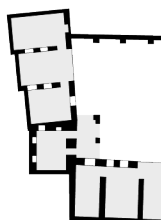
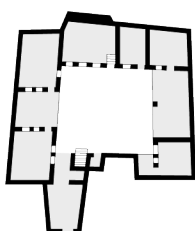
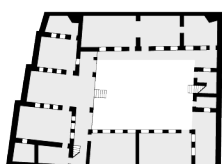
Once the construction method and the functional composition of the settlement have been described, we proceed with a more in-depth typological study of the typical residence of the center of Mosul, to extract from it the key concepts to be transposed in the design of modular homes for the temporary cell. The reason is the willingness to contextually insert the settlement in the Mosul city center as correctly as possible, so as to avoid the already mentioned risks of “rejection”, and, in particular, to make the new temporary accommodation as comfortable as possible for returnees, both from the point of view of habitability and respect for their identity and memory.

Nine typical Old Town residences are therefore analyzed.

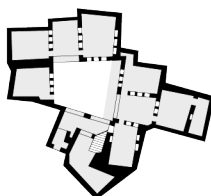
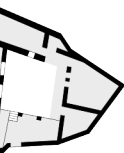
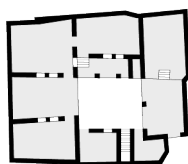
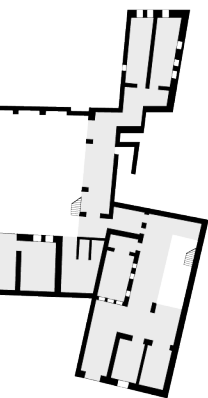
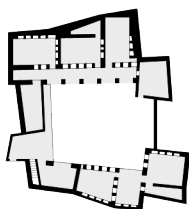
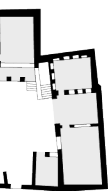
Several studies describe the typological characteristics observed through the observation of the residences of the historic city of Mosul since they represent a unicum in the Middle East. All the analyzed cases present an internal courtyard, normally introduced by the main access through intermediate spaces. Also, there are usually secondary entrances that pass through the service area. In the larger residences, there are two courtyards, one of which is used as a reception area for guests and one as the private heart of the house. We then observe the presence of an iwan that forms a tripartite system with the rooms, which can also be found on the mezzanine floor. The iwan can be as tall as the foreground or double-height and opens towards the central courtyard. Normally the residence is divided into three macro areas, respectively private, public, and service one. The terrain of the ground floor can be developed on different heights and is carried by an underground space supported by columns. Generally, part of the courtyard is occupied by a well that can supply water. Covered spaces, similar to galleries, are used as filters between the various areas of the house, and flat roofs are used as open-air bedrooms to cool off in the hot summer nights.

Regarding the formal organization, the pattern of the entire house is represented by a multicentric mass that develops around regular courtyards and expands outwards. The entire house is very hermetic towards the surrounding environment, presenting all the openings towards the inner courtyards. A hierarchy of well-structured spaces interspersed with transition zones shows the different levels of privacy within the home (*Mustafa et al., 2010*).

Regarding privacy, in particular, the residence behaves flexibly: the morphology of the building can be re-arranged spatially and functionally concerning the different degrees of privacy. This characteristic means that for example the entrance courtyard can be used for domestic functions as long as you do not have to receive guests, or that the spaces used by women expand and shrink depending on the presence of a man or not. Finally, a certain informality is provided in every area of the house, particularly useful when the family unit expands following a marriage or a new birth (*Thahab et al., 2014*).



Abacus of nine typical residences of the historic center of Mosul.



Scale 1:1000



In summary, the concepts, arranged thanks to the analysis of the residential typology of Mosul historical center, to be used in the design of temporary houses, are the following:

The typical introspection of the Arab house, where all the openings of the house to the outside, apart from rare exceptions, overlook the central courtyard, called “dar”, the place that guarantees the physical and psychological well-being of the inhabitants and the heart of family life (Petruccioli, 2007).

The use of flat roofs as living rooms of the house, in particular as open-air bedrooms to cool off in the hot summer nights.

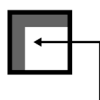
The presence of a basement or semi-basement, normally used as a deposit and cool cellar, characterized by a space characterized by columns and arches that constitute the foundation of the residence.

A well in the courtyard that serves as a source of drinking water for watering and hygiene of the house.

The presence of an *iwan*, covered space completely facing the central courtyard, normally one or two floors high, used to carry out the convivial functions that would normally be conducted inside and to give access to the bedrooms, with which it usually forms a tripartite system.

An entrance that is never linearly directed towards the central courtyard, but rather is the first of many transition spaces that allow for gradual access from the public area to the more private one.

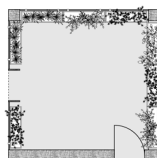
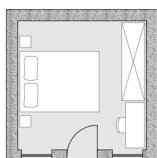
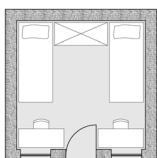
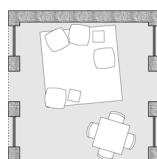
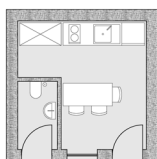
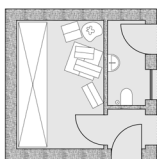
A morphology that starts from a central courtyard that is usually rectangular and goes to expand irregularly to fill the external empty space.

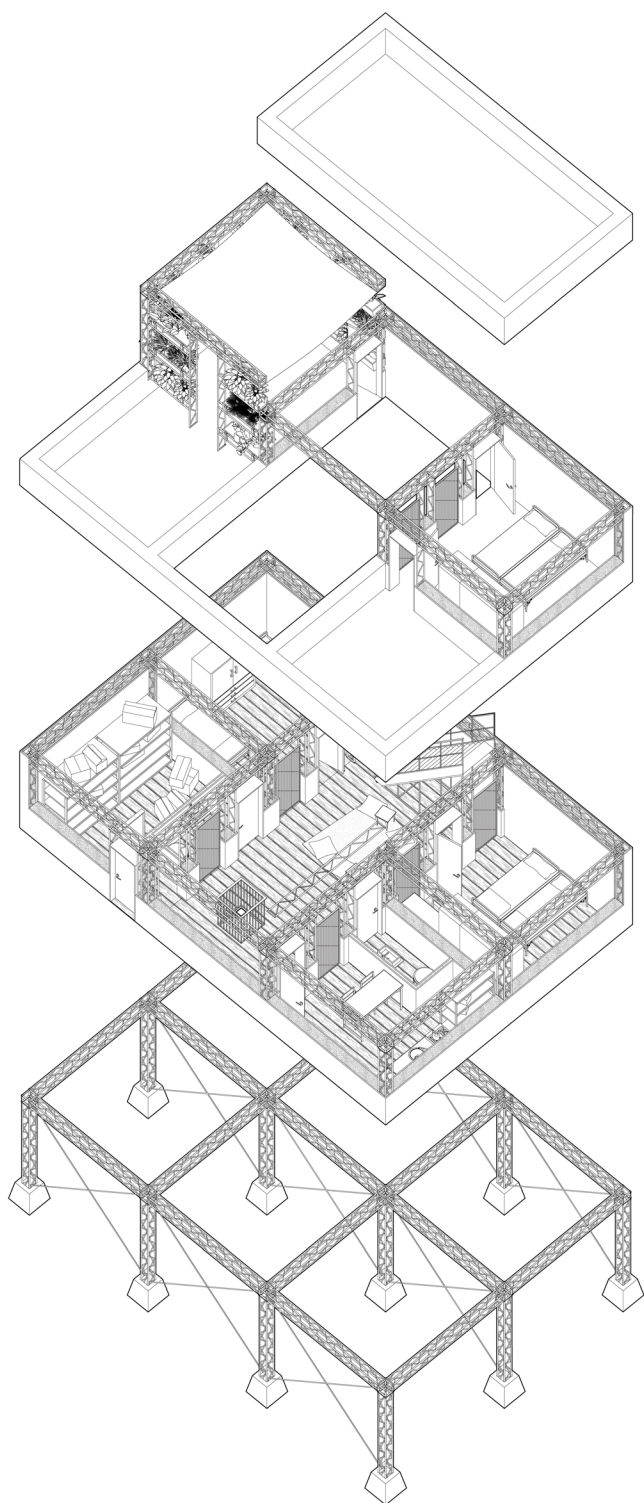


## Modular Functions

Thanks to the residential typological study of the Old City, the six basic monomodular functions are conceived which, in their essentiality, seek to represent their social needs and summarize the main traits of the culture and identity of the inhabitants of Mosul expressed by the local architecture (*Petruccioli, 2007*).

These elementary cells form the basis for composing the settlement's temporary housing units in their construction. They are divided into entrance, kitchen, iwan, two double rooms, hanging garden. The assembly of the first five functions around a central empty module constitutes the minimum residence of the settlement, with the possible addition of the hanging garden above the roof. This house relates to the urban fabric of the historic center thanks to the re-proposal of the concepts outlined in the previous paragraph. It is thus possible to observe the entrance, complete with a bathroom and a storage space designed especially for objects recovered from the rubble of one's own houses, in which access to the central courtyard is non-linear; then the presence of an iwan open towards the dar, characterized by a height that varies from one to two modules, from which the bedrooms are accessed, forming the same tripartite division of the historical residence of Mosul; the reinterpretation of the well in the courtyard whi-





Modular functions and assembly of the cell's basic residence.

ch, being at an elevated height, serves as a point of light for the area of restoration below, as well as a useful opening for the transport of large objects inside and outside the residences; a transportable staircase to access the inhabited roofs and the vegetable garden, which wants to be a source of self-support for every single residence; finally the overall set of modules and their positioning reproduce the same introspection of the analyzed residential type, as well as its conformation based on the expansion around the central court.

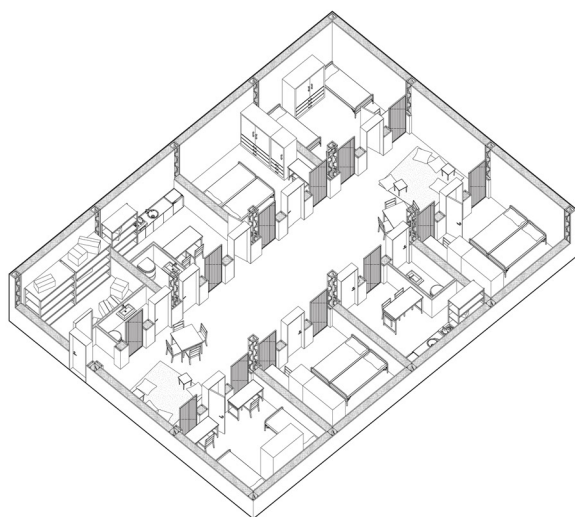
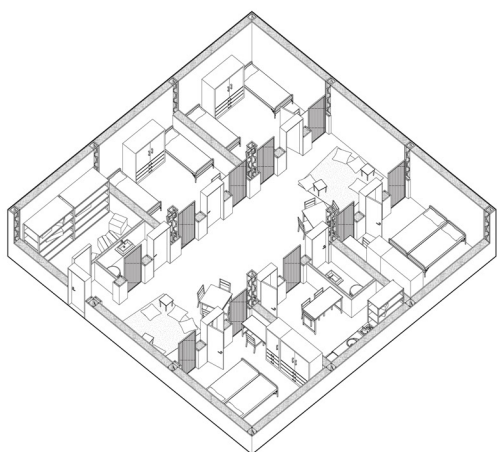
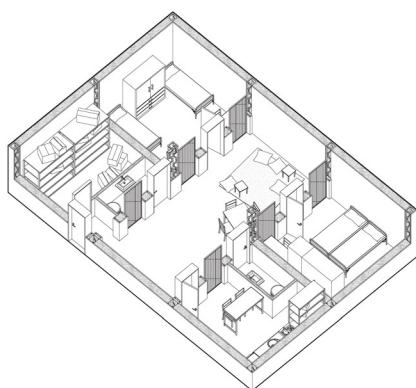
The minimum house described is designed to accommodate a family of up to four people, however the modular system provides for the possibility of an expansion, in the case of group growth, thanks to the possibility of exploiting the roofs of the first five modules for the installation of other bedrooms, adjacent to the vegetable garden. This system is admissible for a maximum of one level above the base of the temporary cell.

In the case in which the family nucleus is larger than the standard one, as often happens in the case of the traditional Arab family, other conformations are imagined so that a greater number of basic functional modules can be assembled to produce more spacious residences.

In this sense, two other types of houses are conceived in addition to the one designed for four inhabitants: the medium variant for eight people composed of eight modules grouped around the central courtyard, and the ten inhabitants large one in which the same number of functional modules enclose a doubled court. In the second residence, the added functions are two more bedrooms, while in the third one there are added a further room and a doubling of the kitchen module.

Obviously, the structure of the project framework anticipates in this case as well the possibility of further expansion to the higher floor in case of the growth of family units.





The new residential typology declined in three different sizes.

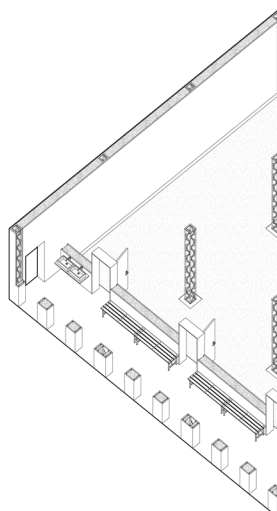
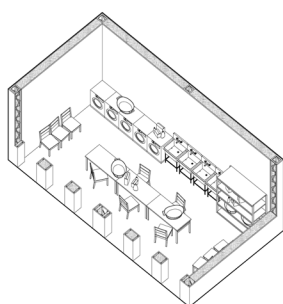
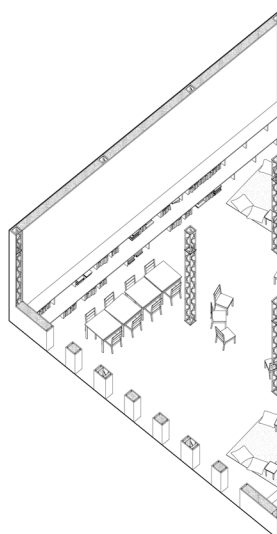
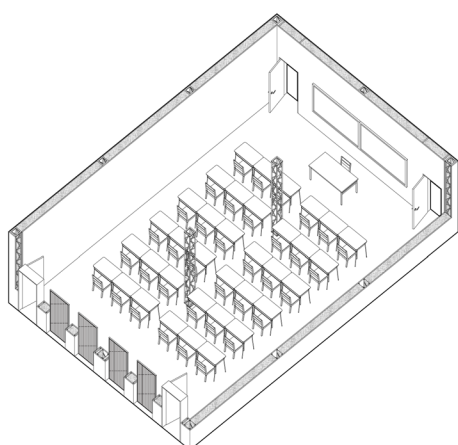
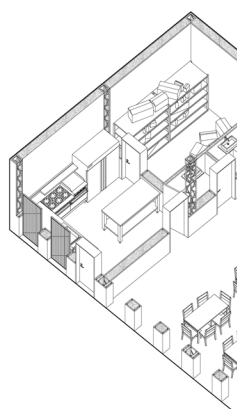
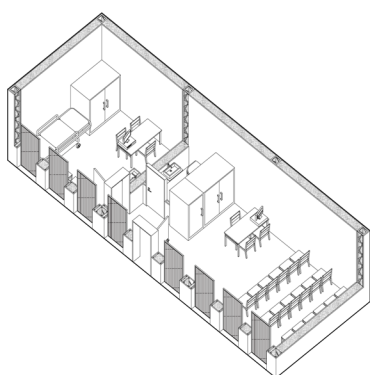
## Cell's modular services

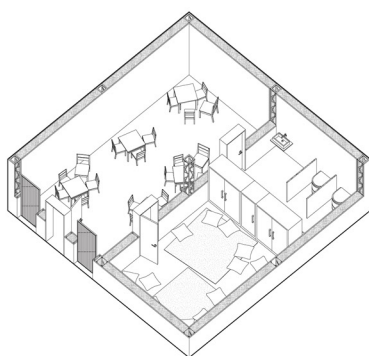
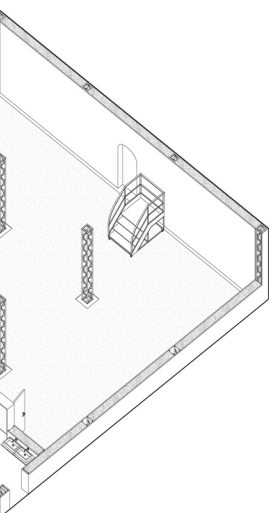
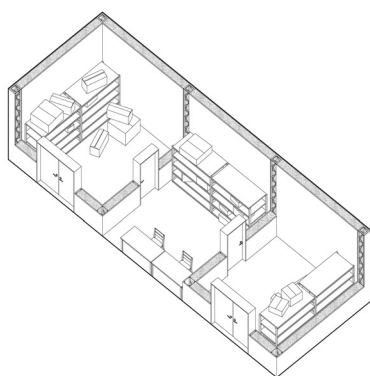
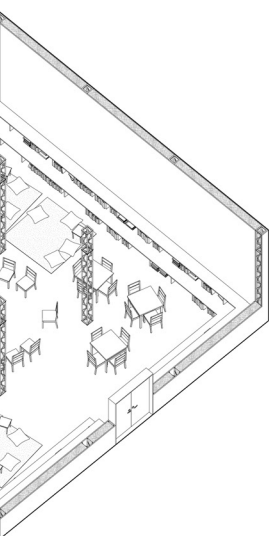
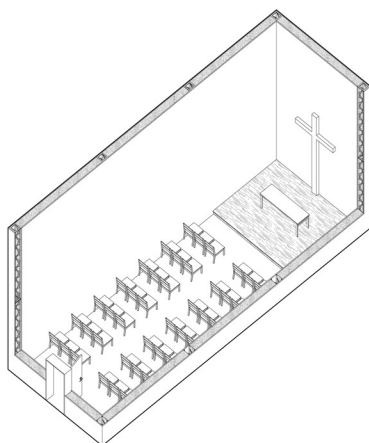
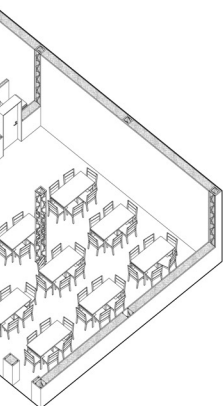
Regarding the collective and logistic functions of the new settlement, the same procedure as before is followed, to obtain from the modular structure every single useful space for the temporary phase of the pilot project. In particular, as we have already seen previously speaking about the genesis of settlement, the idea is that the apparatus of collective environments can serve not only the guests of the cell but also all those people who live in the ruins of the city in an almost total absence of primary goods and infrastructure. Therefore the functional program, deduced in large part from the intersection between the requests of the competition brief (*Archstorming*, 2017) and the standard directives of the international planning of the fields (*UNHCR*, 2007) anticipates the following list of spaces:

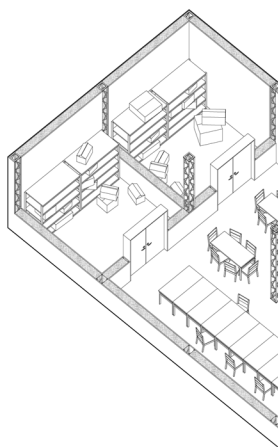
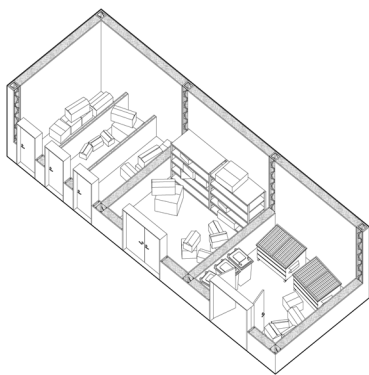
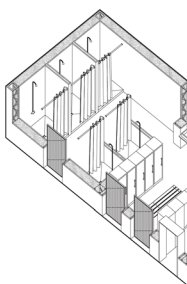
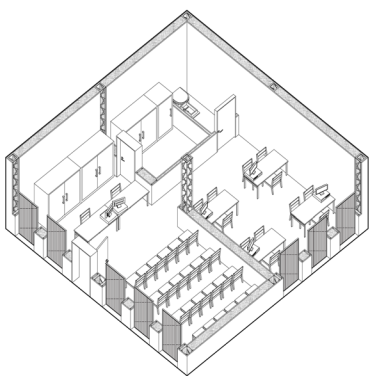
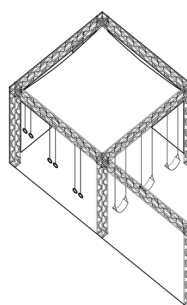
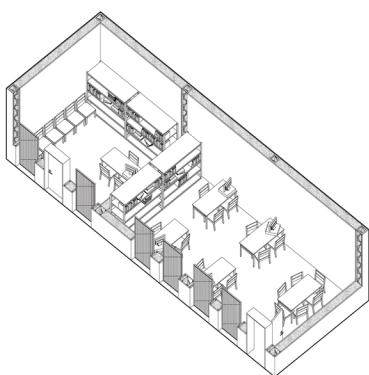
01. Ambulatory
02. Canteen
03. Chapel
04. Class
05. Community room
06. Humanitarian AID distribution
07. Laundry
08. Mosque
09. Kindergarten
10. Offices
11. Playground
12. Psychological care center
13. Registration office
14. Showers
15. Stairs and elevators
16. Storage
17. Workshop classes
18. WC

In particular, it is noticeable that some functions grouped by the brief within the second project phase are added to those of the first emergency phase. Classes for the education of minors, spaces for workshops useful for the professional training of adults, as well as the process of reconstruction

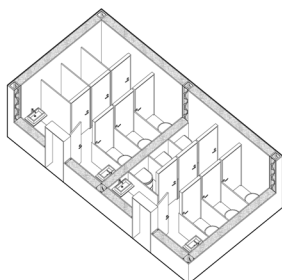
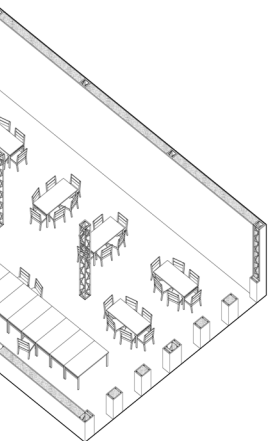
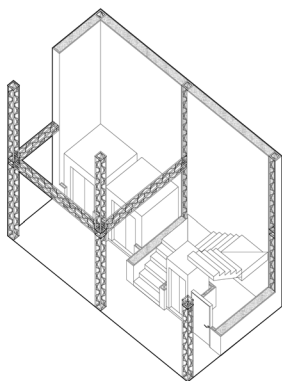
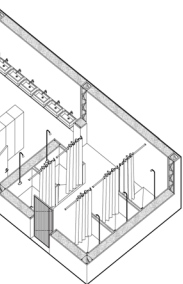
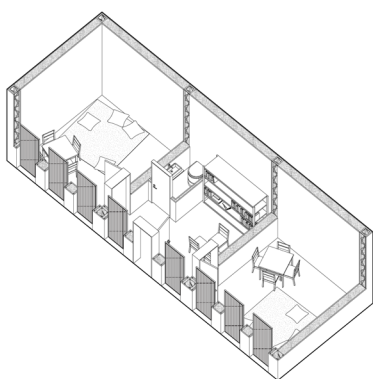
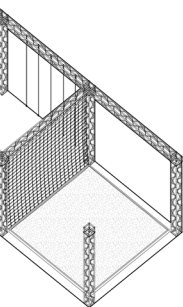
of cohesion, together with public spaces for coexistence, or all those functions that will then be implemented in future centers for empowerment, are all almost immediately constructed so as to activate immediately their huge contribution in the peacebuilding process within the population. In the final analysis, unlike the composition of the residences through the repetition of basic functional units, in the case of collective spaces, apart from a few rare exceptions, it is necessary to reduce the standardization of the environments, although designed to start from the same 4x4 meter module, due to the peculiarity of the functions they host.











### 3.3.3 Temporary cell description

The actual composition of the pilot cell has been developed through a careful and reasoned reinterpretation of the guidelines drawn up by the UNHCR (*UNHCR, 2007*) for the planning of temporary settlements, to adapt them to the needs posed by the elements and strategies above described.

The sizing of the project at user level, for example, is derived from a calculation for which the free area of the site, which as previously stated will be completely occupied by the framework, has been divided by the size per capita described by the UNHCR as minimum living space within a field. The area of about 9000 square meters, subtracted the space occupied by the monumental ruins, was divided by the surface of 45 square meters per inhabitant, or the sum of the minimum surface area of 30 square meters plus the recommended addition of 15 square meters functional to agricultural self-production, for a total of about 200 people (expanding) to be hosted in the camp, divided between a minimum of 30 mixed residences. This number includes not only the useful space for private residences, but also the totality of collective and traveling spaces.

In the same way, the standard guidelines have been the basis for calculating the quantities of public functions, where for each type a minimum quantity per number of inhabitants is recommended.

Therefore - once the number of citizens hosted, the functional program and its quantities have been decided - it is possible to proceed with the design of the cell.

As we saw earlier, it is developed from what remains of the Great Mosque of Al-Nuri, with the formation of what will be the main street of the settlement, as the fulcrum of its collective life. It pass in front of the ruins continuing the route of an existing road, which is directed to roughly cut the project site in half.

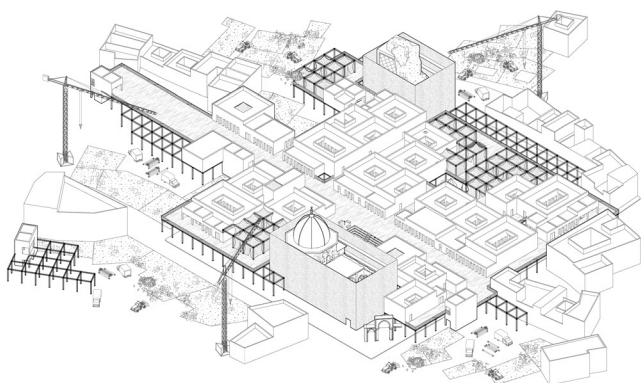
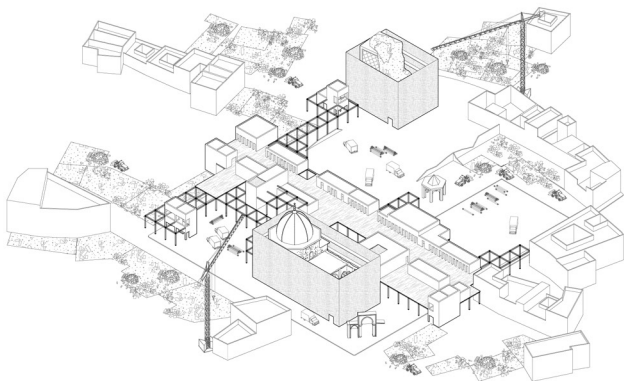
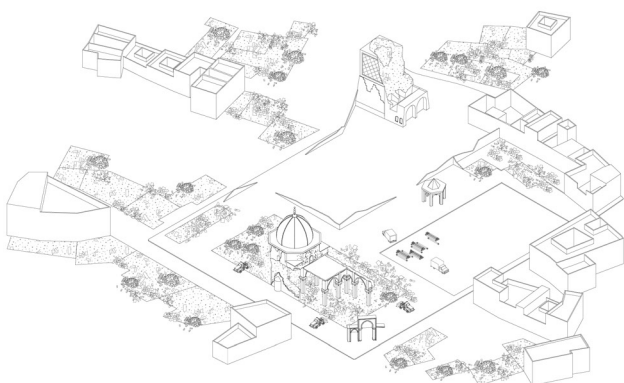
The broad street, supported by two lines of

structural modules, is composed primarily of a central heart where the most useful functions for collective social life are grouped together, specifically an amphitheater - space for discussion, debate and art - the which descends towards the ruins of the mosque to exploit the façade remained as a background full of memory and meaning; play areas - with the desire to symbolically and physically place the well-being of children at the center of the planning strategy; and collective spaces for prayer, or a mosque and a chapel. The remaining segments of the main street host medical and psychological clinics, four public showers, the registration office, the office for the distribution of humanitarian aid, a canteen, a laundry and two fountains for water supply, which would be useful especially if it is not possible to exploit the existing infrastructure to bring water into each temporary residence. To complete the collective road, as well as the first part of the assembled settlement, the lift systems are placed at both ends, together with the public baths, useful above all for the inhabitants of the city considering the provision of chemical toilets inside the residences and the waste collection areas, whose presence should promote a feeling of local ownership and the consequent maintenance of services by the citizens themselves (*UNHCR, 2007*).

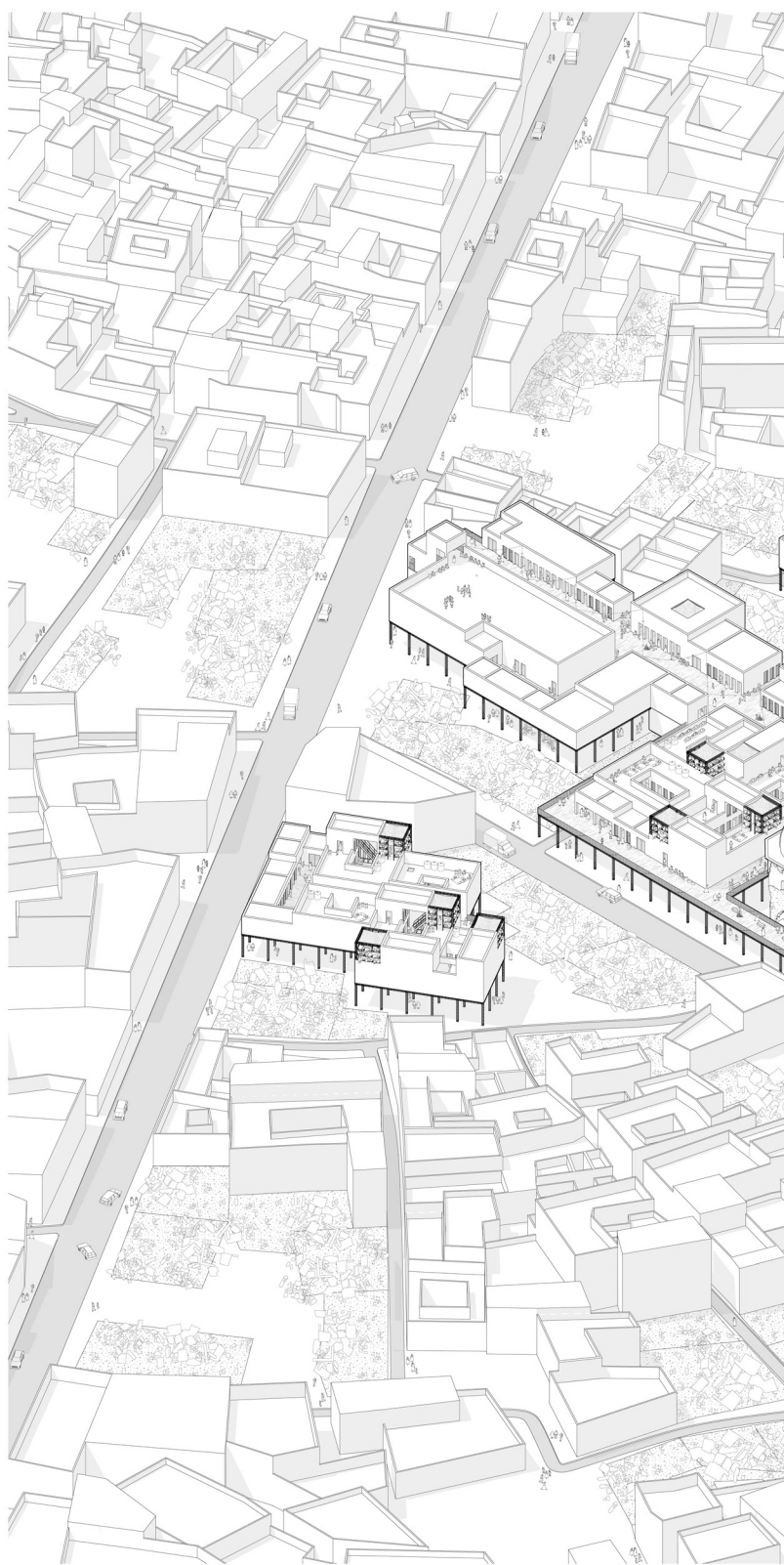
The rest of the settlement develops going first to create connections with the extremes of the monumental area, where as many lift systems and toilets are placed, and secondly by occupying the empty spaces around the Great Mosque of Al-Nuri. At this point the area underneath the cell is largely enclosed to facilitate the disposal of debris and the restoration of the ruins, placing however other showers, toilets and storerooms useful to the neighboring inhabitants, and leaving free covered spaces for the flexible use of population, by virtue of an informal occupation due to collective and commercial activities useful to restart the city. Above the trampling floor of the settlement, on the other hand, the residences are self-built, with the assistance of international aid, by the population, which initially finds shelter in tents that

exploit the same network structure as future homes. This participatory process is also very useful in promoting a sense of belonging, control and self-confidence, while reducing construction time and costs (*UNHCR, 2007*). The last occupied areas are, of course, the perimeter areas, which are engaged both by further residences and by other public services. In particular, the largest space, among the four selected outside the Mosque area, is located right on the continuation of the main settlement street. For this reason, it is exploited to widen the road itself with the addition of social and educational functions which, as mentioned above, it was decided to activate since the first temporary phase in order to prevent further immobilization of the population and increasing the preponderant problem of lost generations, deprived of education during the war. In this case, three large school classes are added, two classes for the organization of workshops and professional courses for adults, a further canteen or cafe, administrative offices and a multifunctional space for the community.

Finally, both the dome of the Mosque of Al-Nuri, and the base of the minaret, are surrounded by two paths, equipped with seats, with the aim of allowing a vision and livability of the ruins in the round, in order to collaborate, together with the visual axes and the aforementioned collective functions, to a narrative of memory apt to cultivate the common identity of the population.

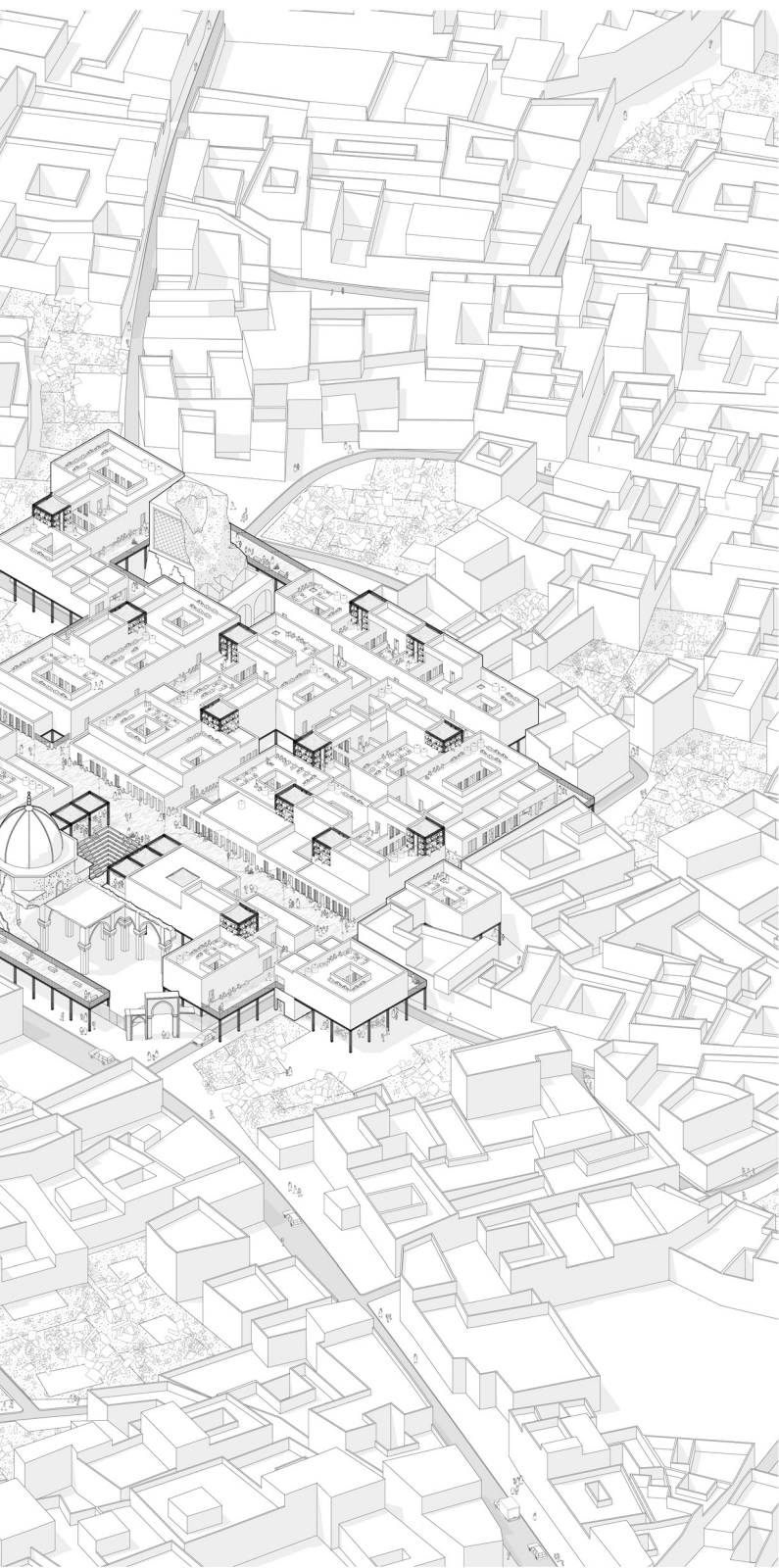


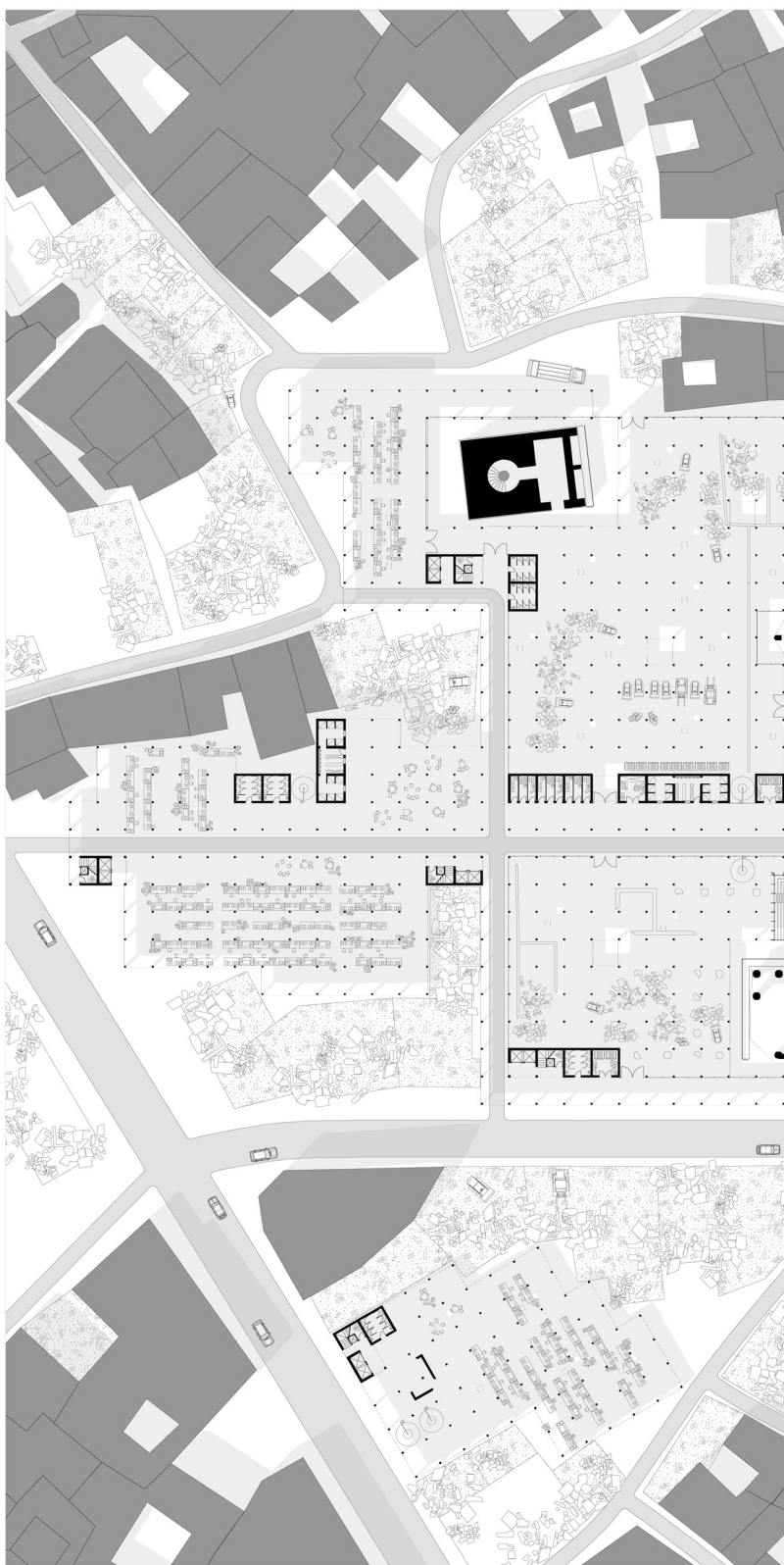
Installation process and development of the temporary emergency cell within the Mosul urban fabric.



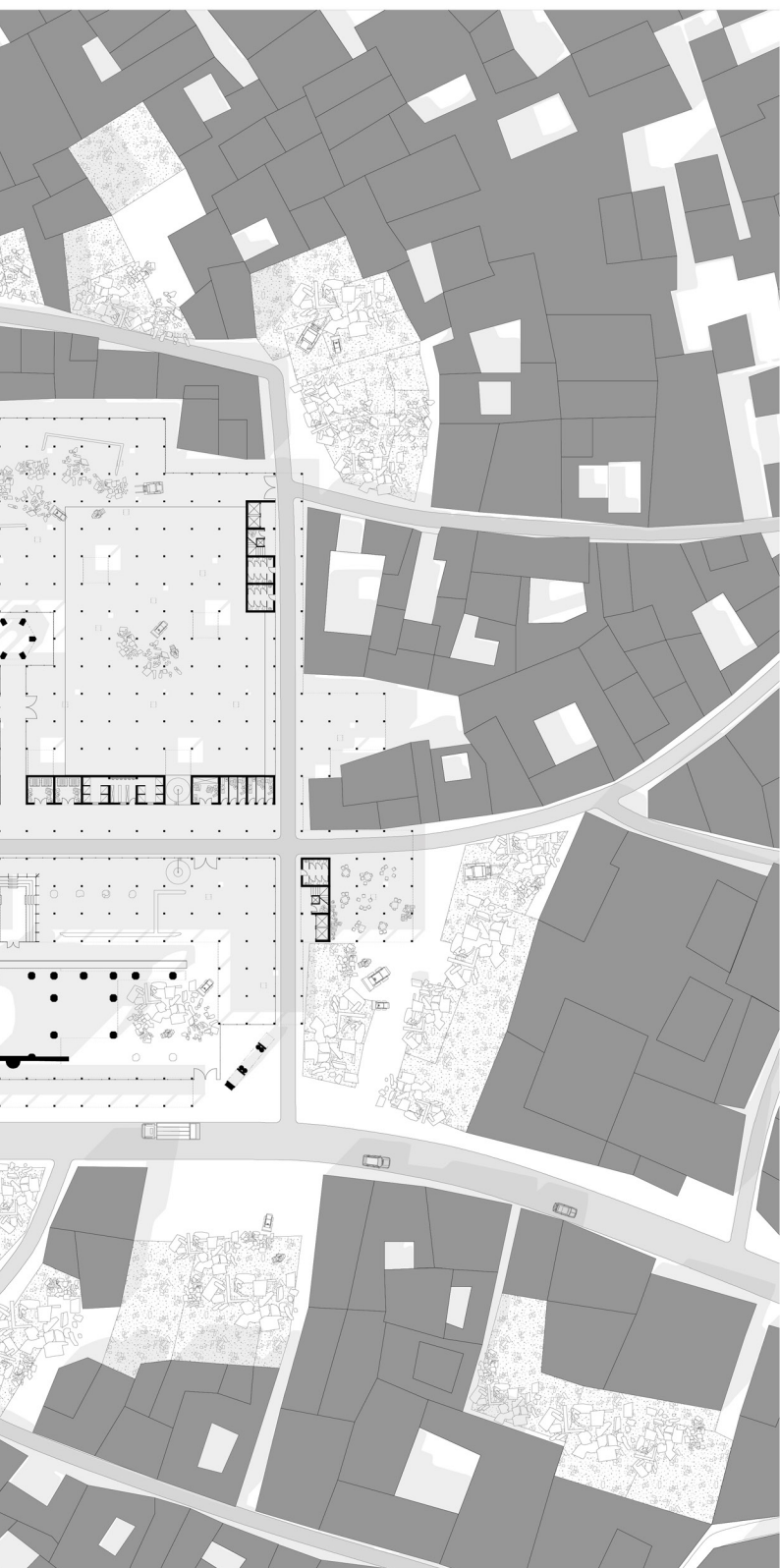
The temporary emergency cell installed and inhabited within the urban fabric of Mosul.





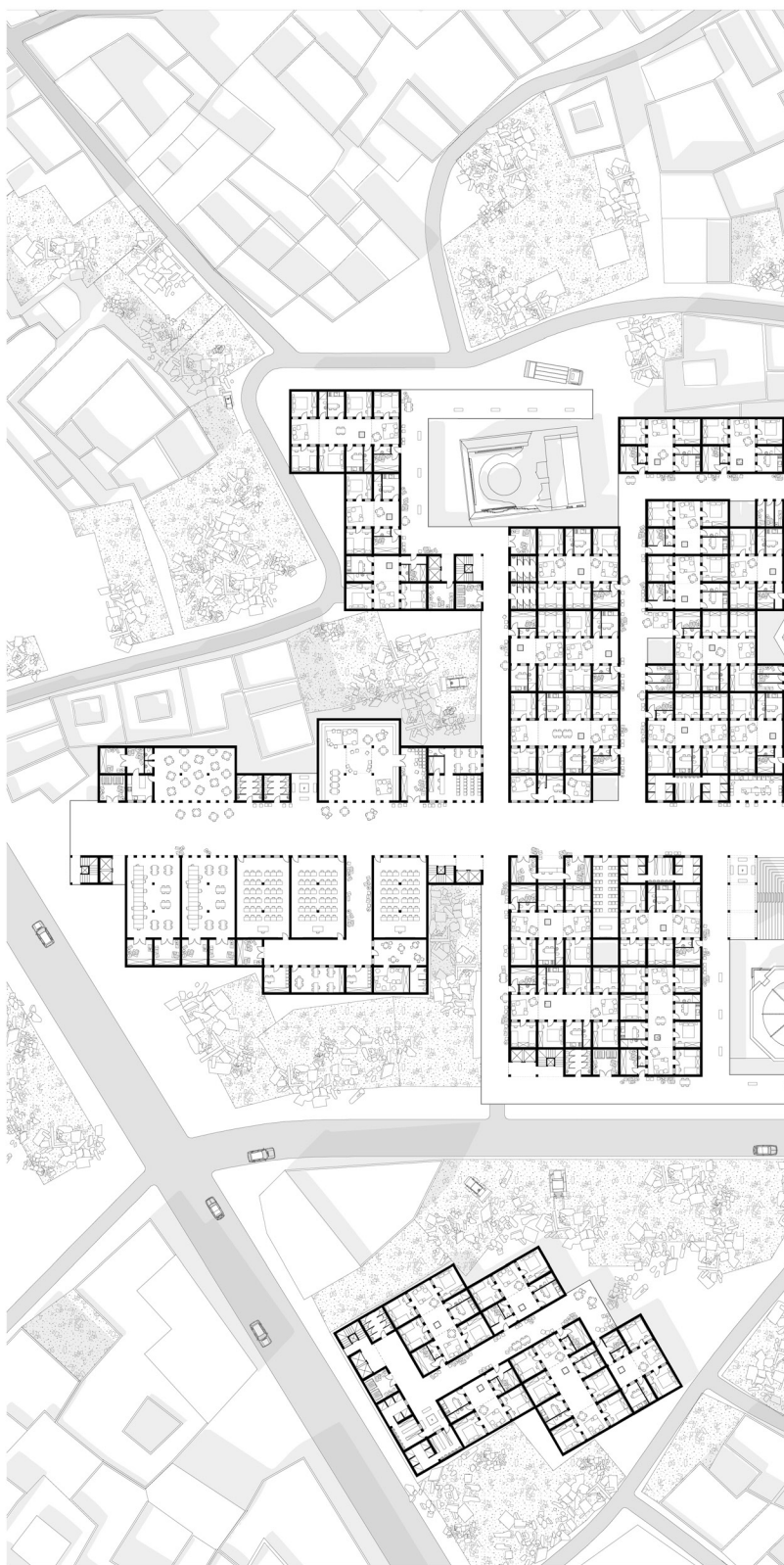


Ground floor plan under the temporary settlement, with areas closed to allow the disposal of debris and restoration of the monuments, and other empty to allow the population to use them informally.

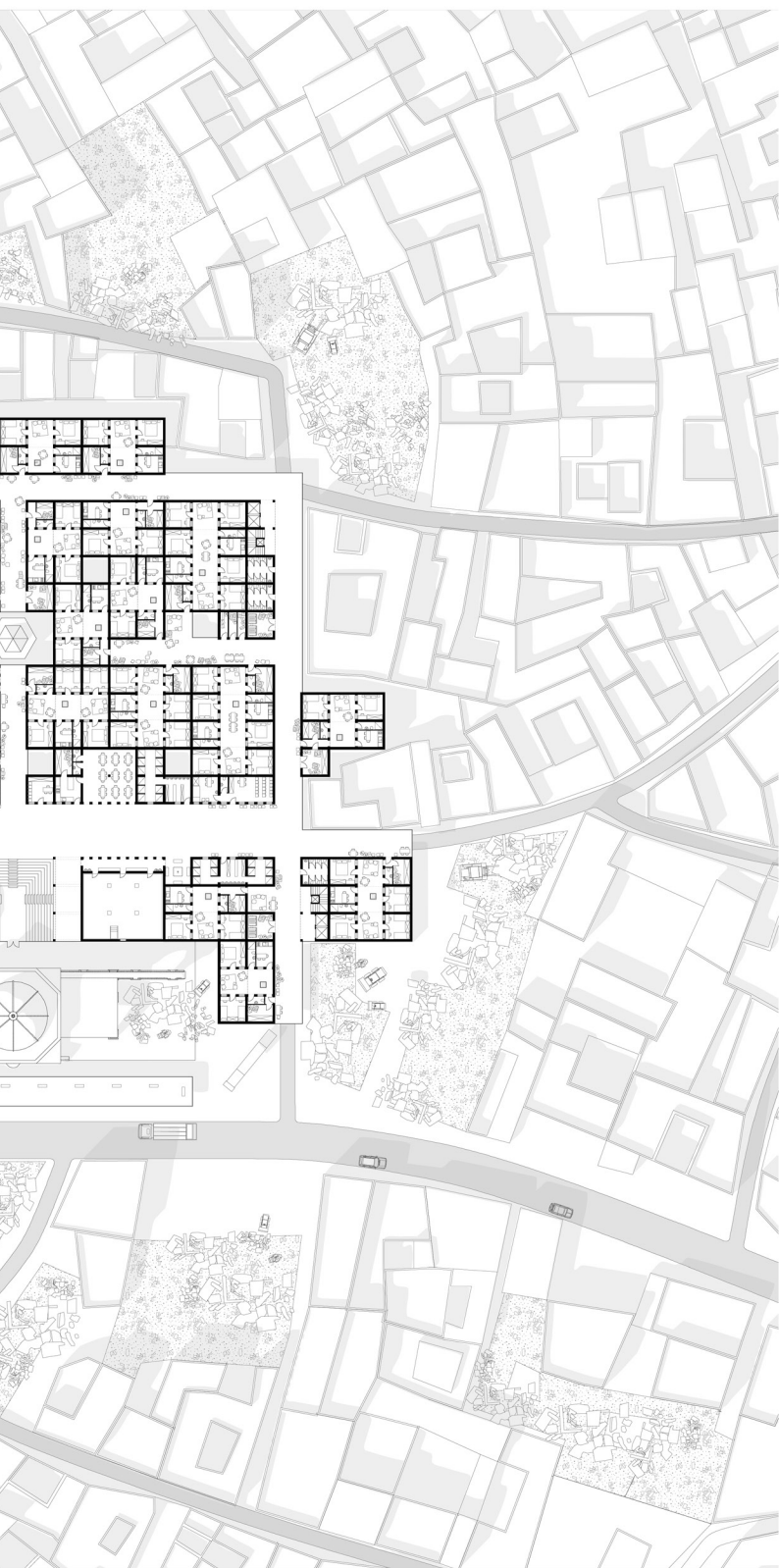


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First floor plan of the temporary settlement, with a central street used as a public service area, and the rest occupied by residences.

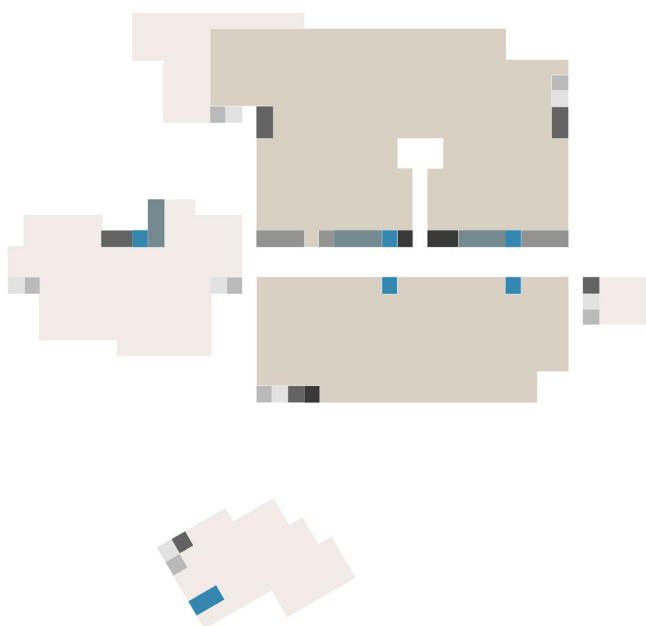


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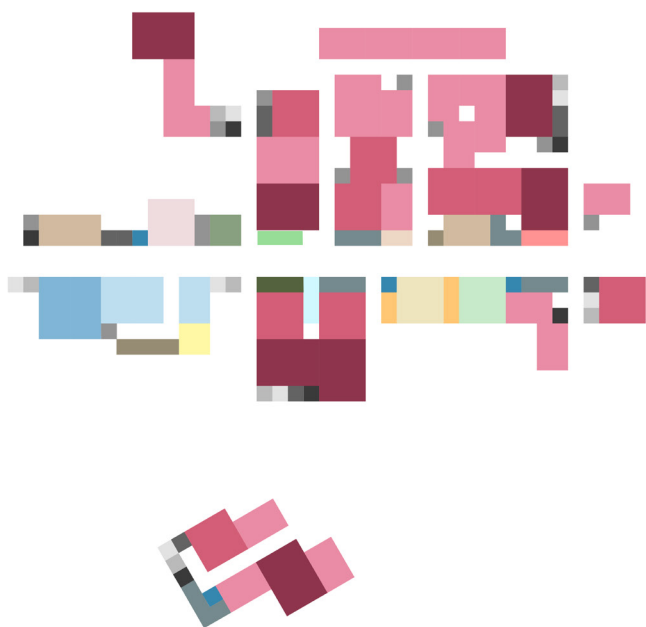
## Key

	Ambulatory
	Canteen
	Chapel
	Class
	Community room
	Community square / theater
	Distribution of AID
	Elevators
	Enclosed work-in-progress areas
	Informal covered areas
	Laundry
	Mosque
	Nursery
	Offices
	Playground
	Psychological care
	Public toilet
	Registration office
	Residence - small (4 people)
	Residence - medium (8 people)
	Residence - large (10 people)
	Showers
	Stairs
	Storage
	Waste room
	Water tap
	Workshop class





LV Ground



LV Cell

## Gerarchy and flexibility in the cell's morphology

The morphology of the cell as a whole, as previously mentioned, is based on that of the area where the settlement is located and on the Arab city in general. In particular, the project tries to recreate the typical street hierarchical system and the consequent flexibility of the spaces.

The plan shows how the secondary streets, wide one module only, branch off from the main street and serve to give access to the residences and connect the cell along its perimeter. In turn, cul-de-sacs are extended along with them, which allows reaching the entrance of the more central residences. This system makes the pilot project physically and visually engaged within the local urban fabric, and this is even more emphasized by the typology of temporary residences.

This is also linked to the theme of the flexibility of spaces and the permeation between public and private, typical of the Arab city. Despite the common belief that the introspection of buildings and Arab neighborhoods is linked to a certain closure and clear separation between public and private, the reality is very different.

As in the case of home spaces, even urban streets, representing most public spaces in cities such as Mosul, enjoy great flexibility that changes them over time. Gradually, as we move from the main commercial streets to the narrow residential alleys, public spaces increasingly acquire the characteristics of semi-privacy.

This is due to the traditional spatial morphology of the Iraqi neighborhood, called "mahalla", whose behavior depends on the social activities and interactions that take place over a certain period. Here the public space of the street is flexible and can be transformed into a private space. For example, it can be temporarily used by women as a continuation of the home space, where they can carry out domestic activities or meet friends, or be peacefully shared by the neighborhood during a collective event, such as in the case of a wedding or other ceremonies (*Thahab et al.*, 2014).



Diagram of the temporary cell's street hierarchy in relation to the morphology of the Old City.

Thus, in the project residential streets and cul-de-sacs can be occupied informally by the objects of the inhabitants, which will tend to expand outside the door of the house, creating semi-private spaces shared with the neighborhood and accelerating the reassignment of relations between families and a renewed sense of community.

This typical characteristic of the Arab city, in fact, is very useful not only because of a contextualization of the project, but also for the peacebuilding process, since the more adaptable a space is, the more it allows the autonomous adaptation by the population. Conversely, a static and super-structured city, not adapting to the needs of the population, often involves a dangerous loss of identity (*Al-Sabouni, 2017*). It is no coincidence that the loss of the typical transitory spaces of Arab cities, by virtue of the replacement by modern Western models, as in the case of glazed buildings open to the outside, surrounded by private and well-delimited gardens, has undoubtedly contributed to reducing social relations, limiting them to formal meetings, with the effect of a further disintegration of society (*Thahab et al., 2014*).

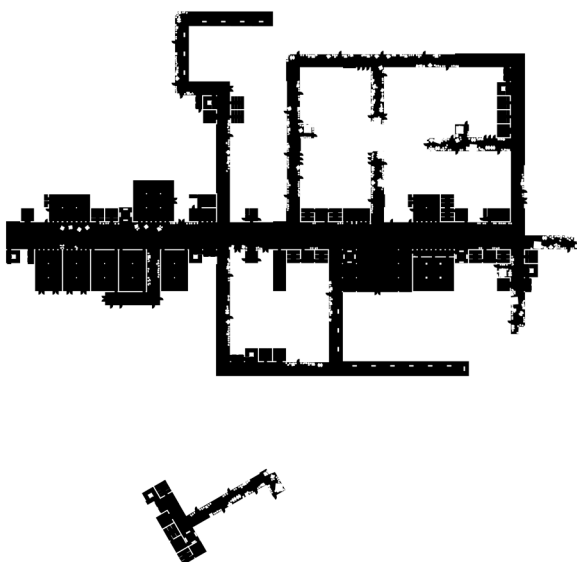


Diagram of the temporary cell's spaces flexibility in relation to to the Islamic typology.



Axial view of the Al-Nuri Mosque dome from the habitable roof of a temporary cell residence.







Axial view of the registration office and Al-Hadba Minaret inside the temporary settlement.







View of the temporary settlement and the destroyed Al-Nuri dome from the road.







Aerial view of the temporary settlement inserted inside the Old City urban tissue.





### *3.4 Binary system for empowerment*

With the end of the emergency phase of the pilot project there is a leap forward to the moment when the cell will no longer serve the purpose of protecting the returnees, it will, therefore, be dismantled and leave room for the binary system composed of the new centers for permanent empowerment and public space, returned to the city as a place of memory and an valve for urban frictions.

From the point of view of the theoretical process of this research work, this is also the phase in which the role of the designer should already be shaded enough to undergo the participatory contribution of the population, leaving the inhabitants themselves to manage, control and develop the subsequent and, at least, semi-permanent phase. Obviously, as already mentioned above, this is beyond the control of the pilot project, so it is necessary to further approximate the data and to enter more and more into a cloud of uncertainty that retains the only purpose of visualizing a possible outcome of the project.



Mosul book festival, September 2018  
*Agence France-Presse (AFP), 2018*

The concepts that summarize the characteristics of the second project phase are the following:

An approach that has gradually become “bottom-up”, where the role of the designer displays that of a mediator, to then transmit the control definitively to the citizens.

Empowerment of citizens through cultural and educational activities and services, first and foremost the school, to make them capable of becoming the new generation of leaders of tomorrow.

Placemaking to exploit the opportunity to transform the city into a healthier and more livable place than the pre-war situation.

Ownership and autonomy of the population that is responsible for taking control of its own destiny and that of the city itself.

The exploitation of memory connected to heritage as a common basis for the identity of the entire population, to stimulate the peacebuilding process.

Flexibility to allow the material recovery of part of the temporary settlement and at the same time facilitate the independent development of the project by the citizens.

Permeability to continue to serve the entire population of Mosul and work as a valve for tensions and a meeting point for the society's various groups.

Active participation of the population in planning and building the permanent development of the project.

Propulsive process in which the project continues to serve its purpose in the future, becoming a guarantor of sustainable and lasting peace.



### 3.4.1 Empowerment Hub

As regards the empowerment hub, the project seeks to manage only the conception of a flexible functional program that acts as a guide for the design developed locally by the population together with native specialists.

This center must group all the cultural, social and educational functions useful for the realization of the population of Mosul, to strengthen it, making it self-sufficient, autonomous and emancipated.

In this sense, the building, or assemblage of buildings, gathers the legacy of the ancient role of the mosque as a cultural, commercial and political center of the city (*Matloob et al., 2014*). In fact, it was never a place independent from the fabric where it was inserted, on the contrary, it was deeply interconnected especially with educational activities as medicine, astronomy, and mathematics. Usually, the complex, consisting of the mosque and madrasa, was recognized for this reason as the base of the civil society of Islam (*Iftikhar, 2018*). In the same way, the new center for empowerment would like to be useful to finding and cultivate the foundations for a renewed cohesive civil and rancor-free society and to sustain it over time, training the inhabitants of today to make them able to carry on the same goals and teach them to the generations of tomorrow.

To draw up a functional program that would allow to achieve these objectives, it was desired to cross-reference the data obtained from the theoretical planning analysis, and the competition brief second phase, with those derived from the questionnaires assigned to some Mosul inhabitants, as potential users of the new center.

In this regard, it is necessary to specify that in the case of this simulation, having observed an impossibility to find a way to reach a sufficiently representative sample of citizens, both in terms of numbers and in terms of heterogeneity, we chose to exploit the data derived from the participation of seven volunteers from the NGO “Un Ponte Per...”, whose “Officine di pace” represent a vir-



Per...", whose "Officine di pace" represent a virtuous example of youth centers set up in various Iraqi locations, including Mosul, with similar goals and peacebuilding activities to those that are intended to be included in the project's centers for empowerment.

## Questionnaires

The volunteers of the NGO “Un Ponte per...” who have chosen to contribute to the project by answering the questionnaire questions are the following:

01. Saman F. A., Architect
02. Fahad J., Mosul, CPTM
03. Haneen J., Mosul, volunteer for UPP
04. Youns S., Engineer, Mosul, CPTM
05. Rafa F., Mosul, CPTM
06. Ahmad K., Mosul, CPTM
07. Abdullah R., video editor, Mosul, CPTM

The questionnaires aimed primarily at better understanding some internal dynamics of the population, hoping that local users could bring a different point of view from that of the academic articles and provide useful information for the implementation of cultural and educational functions provided with variants, suggestions, and wishes.



A team of “Un Ponte Per...” volunteers.  
Source: [www.unponteper.it](http://www.unponteper.it)

The proposed questions are reported below:

01. What do you think of the project idea? Would you like to write a few comments, objections or suggestions?
02. What are the activities carried out in the “Officine di pace”?
03. What kind of spaces are needed for this type of activity?
04. Could you propose any other space you would like to add to the Youth Centers?
05. Are the members of the so-called “Daesh Families” welcome in youth centers? If yes, how is this difficult coexistence managed?
06. How is the issue of gender differences managed?
07. How is the issue related to minorities within the company handled?
08. Is there any characteristic typical of the Arab culture and architecture that you would recommend considering in the design of the spaces mentioned above?
09. What other activities, in your opinion, would be important within an empowerment center?
10. Do you think of other considerations or problems to think about when designing a center for empowerment?

Regarding the first question related to a generic opinion on the idea of the project the response was mostly positive, despite two partial objections regarding the idea of superimposing the cell on the destroyed religious buildings, and the difficulty that could be encountered in noticing a lack of free spaces where to set the settlement, advising instead to use the many empty buildings in the city.

From the questionnaires, it appears that the activities generally performed within the “Officine di pace” youth centers are activities for peacebuilding and recreational activities in general, artistic workshops, media and social media, sports, professional courses, collective prayer activities and related to primary health, especially psychological support.

According to the interviewees, the spaces needed to perform these activities must be first and foremost safe places. More specifically, they talk about classes, computers rooms, a stage, a canteen, a dormitory, sports fields, music rooms, art and painting studios, an outdoor garden, a courtyard, and finally spaces mainly designed for the protection and empowerment of women and children.

In addition, in response to the question relating to the addition of other unforeseen functions, the responses reinforced the need for a space pertaining to children, as well as the addition of a place where even the elderly can interact more with the communities, classes for organizing workshops, a gallery for art and exhibitions, a cinema, cultural cafes, green spaces, and a museum.

About the question concerning the integration of Daesh families in youth centers, the responses were never positive. Many answers denied this possibility, in most cases, they assumed the possibility of future involvement but stressing that now is not the time yet. Only some have hypothesized the possibility of insertion through activities mediated by psychologists.

Concerning the question of gender differences within Iraqi society, the responses were varied, with a proposal to isolate men and women at first, to then start an integration process, and on the other the idea of promoting and supporting internal differences in society from the beginning as a strength rather than a weakness. In general, it does not seem that there is a common strategy related to this topic, and a response which states that this depends on the community in question, and the neighborhood of origin, demonstrates the difficulty of the subject.

Instead, a different awareness has been demonstrated in answering the question concerning the management of ethnic and religious minorities. For now, the problem does not arise since only Muslim families are returning to the Old City, so it could be an unnecessary issue to deal with in the case of the pilot project. But when there is an opportunity, the advice is to work a lot on accepting the differences through the activities, especially if the temporary cell goes to fit over the ruins of a mosque.

The question concerning characteristics of Arab culture and architecture in the design of the spaces of the center for empowerment is answered through questionnaires to consider the influences of Arab and Assyrian architecture, inspired by traditional architecture, exploit the positive influence of heritage, but avoid religious symbols. In general, the request to avoid being inspired by religious buildings also appears strongly, finding it more useful to base the idea of a common culture on neutral symbols.

About the addition of unforeseen activities within the centers for empowerment, it is proposed to integrate the population into a participatory planning and construction process, concentrating the activities above all on the well-being and education of the new generations, making the efforts aimed at cultural exchange between different religions.



Finally, in relation to the last question concerning generic additions or considerations to be taken into account in the design and construction of a center for empowerment, the users interviewed have generally emphasized the need to refer to tradition, both from a point of view of the approach to materials and construction techniques, and the importance of developing a comfortable and desirable place for everyone.

## Empowerment Hub functional program

The competition brief provided for the “reintegration into the city” phase the need to build on one side individual residences, replaced in this research work by the reconstruction of the old residences, and on the other areas for the education of minors and the adult professional training, public spaces for coexistence, prayer spaces, green areas, a new market for start-up start-ups and the relaunch of the Mosul economy, and offices serving the citizens.

If on the one hand the green spaces and public collective life are summarized, within the project, in the new memory park, which will be discussed later, the other functions proposed by the competition of ideas find their place inside of the empowerment hub. It is in fact within it that in the theory of this research work social activities useful for investment on cohesion and peaceful coexistence have been envisaged. In particular, we have seen how the education of children and the professional training of adults, the active participation of the population, autonomy, the activities that cultivate the sense of belonging and security in the citizens, are essential in the construction of a process of peacebuilding within the Mosul society. Besides music, history, science and culture in general teach people the importance of freedom, democracy and recognizing extremism.

Building narratives through art, for example with theater classes, provides people with an important means to express their emotions and their stories, and above all share them with others. An artistic process can also be useful to internalize unresolved issues, and have the same positive effects as a psychological therapy (*Siddiqui et al. 2017*).

At this point, after summarizing the data extrapolated from the questionnaires relating to the activities carried out within the “Peace Workshops” and reporting the functions derived from the brief of the competition and the theoretical research on population empowerment, a program is drawn up flexible spaces that could constitute the center for empowerment:

01. Flexible spaces for an informal market
02. Spaces for start-ups
03. Cultural café
04. Art gallery
05. Bars and recreational activities
06. Museum
07. Theater / cinema
08. Music classes
09. Art workshop
10. Schools
11. Library
12. Training workshops
13. Worship areas
14. Spaces for discussion
15. Psychological support spaces
16. Playgrounds
17. Sports fields
18. Children’s center
19. Offices



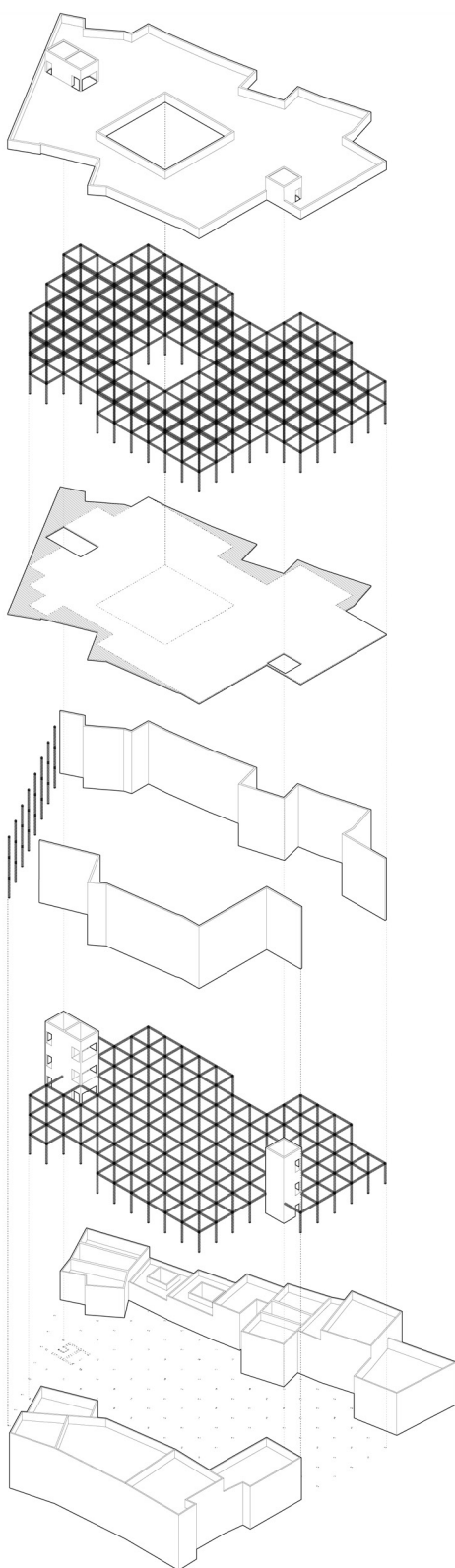
Abstract section of the Empowerment Hub inserted into the urban fabric.



As mentioned before, at this point of the project, we want to refrain from architecturally project the spaces of the empowerment center, but we proceeded to determine strategic guidelines for the development of the building. This is due to the possibility of effectively exploiting the reticular structure left by the temporary cell already present in the areas used for the center. The hypothesis is therefore to use the same framework, making it from temporary to permanent, expanding the area covered by the previous cell, according to the typical morphology of Mosul, until it completely covers the irregular area circumscribed by the existing buildings.

In this way, the ground floor of the buildings could remain empty, permeable and flexible, in order to allow the emergence of autonomous commercial activities, present since the first phase of the project, where to show and sell the products of the activities of the center and the occupation of some spaces for opening start-ups, cultural cafes and art galleries. The interior of the buildings, then, could contain most of the cultural and educational functions, as well as special spaces such as a theater, a library or a museum in case there was space for them. Finally, coverages could be exploited for sports, gaming and more generally social activities, as well as internal courts could serve as hearts of the collective life of the center.



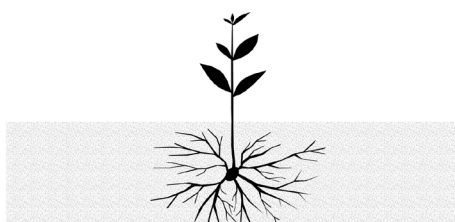
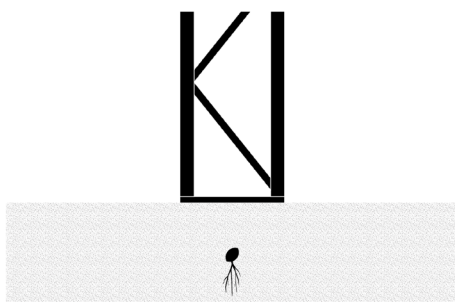
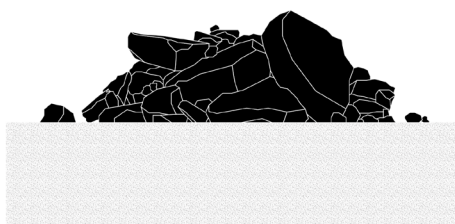


Guidelines for the development of the empowerment hub within the urban fabric.

### 3.4.2 Memory orchard

The dismantling of the temporary cell, once the inhabitants have returned to their homes, leaves the empty area of the Great Mosque of Al-Nuri free from the rubble and with the ruins restored to prevent further deterioration. The project provides the return of this space to the city in the form of a public park, as an urban relief valve according to the theories of placemaking.

The reasons for turning the empty area into a wooded place are different. First of all, the square as the social heart of the city, conceived in the western manner, is not part of the Arab tradition, both because of the high temperatures reached in some periods of the year - which would make this type of space unlivable for the population - and because the center of the city's social life is culturally represented more by the souk and the road system than anything else (*Al-Sabouni, 2017*). Secondly, parks and urban gardens are often used as meeting places and refreshment on hot summer days. From this point of view, Old Baghdad was a virtuous example in Iraq, where a multitude of open green spaces coincided with a profoundly cohesive social approach. Not for nothing many recent studies show that the reduction of these city lungs, due to poor administration and planning, was also one of the factors that led to a population disintegration (*Salih, 2018*). Thirdly, trees and plantings can play a decisive role in situations such as the post-conflict Mosul, since they can clean up the air and act as a shield for fine dust from rubble. Iran, for example, has experienced an increase in dust and sand storms after the war that hit Iraq, as many forests have been burned, losing the ability to reduce both the drying of the soil and to act as a barrier for wind carrying volatile debris (*Tehrantimes, 2019*). Finally, the eventual decision to exploit indigenous fruit trees, such as olive trees, orange trees, lemons and pomegranates, could become a source of employment and livelihood for the local population, as well as transforming the collection into an annual ritual to be performed together with the community.



Transition from temporary emergency structure to urban orchard.

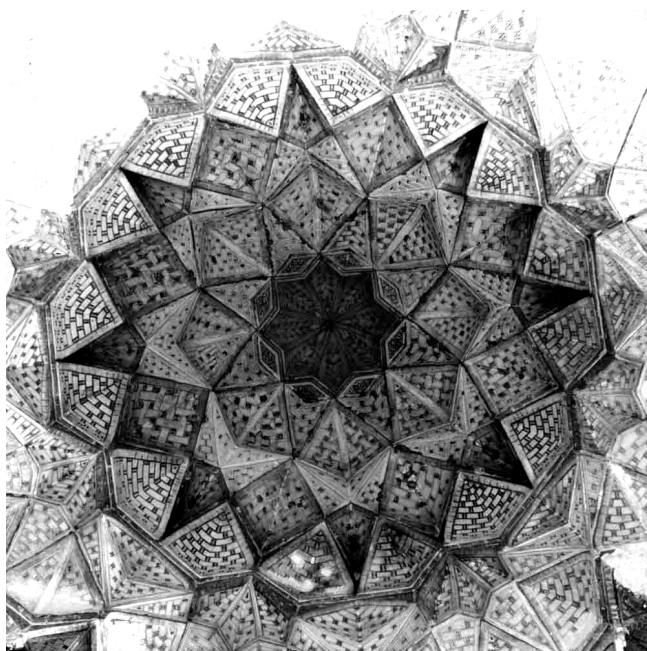
The new urban orchard not only intends to promote lasting and sustainable peace thanks to the beneficial effects that the public space has on the population, but seeks to further accelerate the process of cohesion of the citizens of Mosul thanks to the use of memory. Indeed, it contains within it, like a treasure chest, the remains of the dome and the minaret of the mosque of Al-Nuri, testifying the painful past that unites all the inhabitants.

Also, planting trees in conjunction with the points where the supporting structure of the settlement cell rested allows us to further emphasize the value of the new park as a veritable “orchard of memory”, morphologically recording even the very last, albeit temporary, phase of the history of the city.

The use of a regular grid of trees, therefore, not only participates in the reconstruction of an identity common to all Iraqi citizens, but also includes in itself a powerful symbolic memorial value and citation of the space of the mosque, above which is structured.

From this point of view, in fact, the inhabitant who found himself in the shade of the trees, in the space marked by the regular rhythm of the trunks, would have the same perception caused by the dominant, non-oriented unit of the religious building, where the eye remains balanced in the neutral environment and the soul finds peace (*Al-Sabouni 2017*).

Ultimately, the same grid can also represent the flexibility of a space capable of responding to the needs and internal changes of the population without needing to be adapted through the exploitation of inputs or resources (*Al-Hagla, 2008*).



Muqarnas dome of Mashhad al-Imam ‘Awn al-Din destroyed by IS.  
*Source: archnet.org*



Cover of tree leaves.  
*Author, 2019*

### 3.4.3 Dismantling process

While the temporary emergency cell serves the task of providing a comfortable home for returnees and activating peacebuilding processes, the work of cleaning, reconstruction and restoration of the city proceeds, trying to invest in collaboration with the population every time it is possible. As the population abandons temporary accommodation and returns to their reconstructed homes, the cell is dismantled.

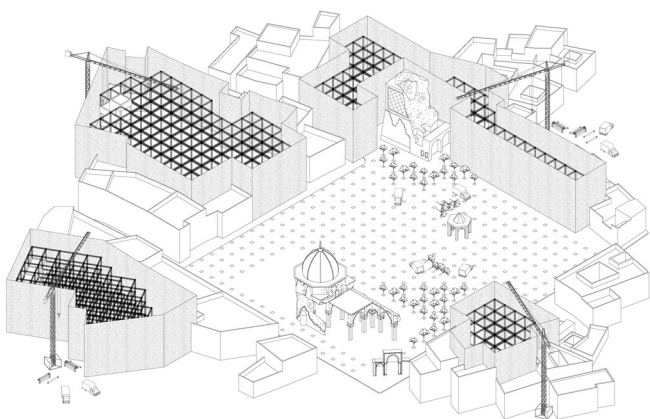
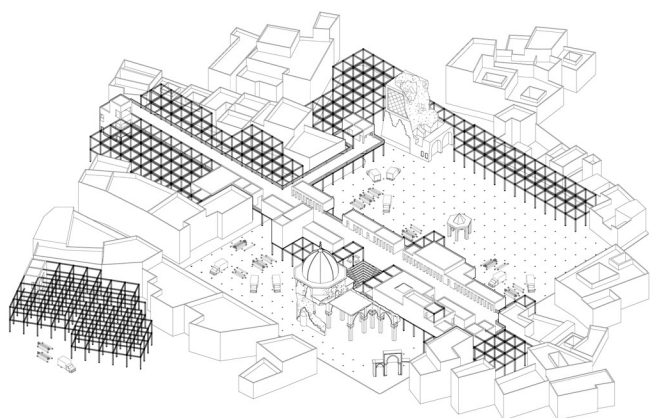
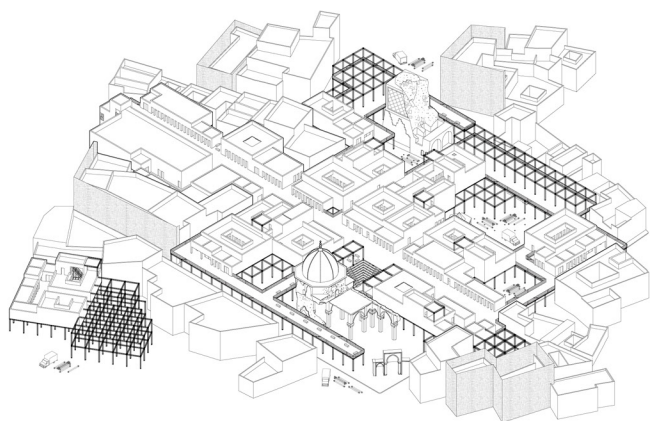
In a reverse process compared to the installation one, first the residences and the portion of the framework from which they were supported are disposed of, leaving only the collective functions and the structures placed where the new centers for empowerment will arise on the site.

The construction of these will proceed with a project developed by the population and local specialists, so that even the last part of the temporary framework can be dismantled.

The reticular structures and the sacks of sand that constituted the settlement are transported elsewhere, ready to be reused, while the fruit trees are planted at the cell's support points.

Thus, begins the synergy between the now active centers for the empowerment and the orchard of memory, a public space where the life of the city returns to flow, the diverse groups that make up the population start to coexist peacefully regardless differences, and the past and memory is safeguarded and exploited as the basis of a new shared identity.

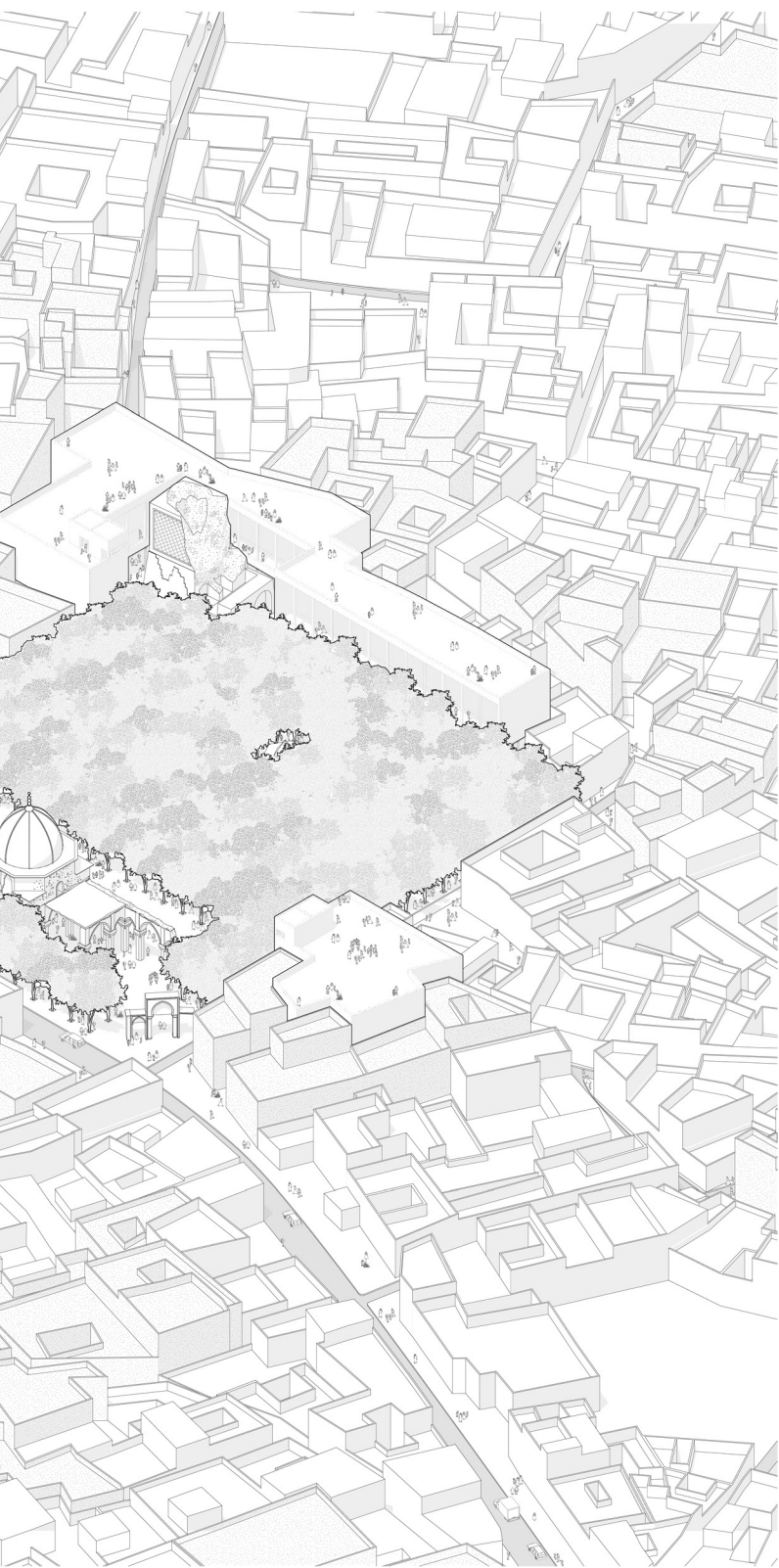




Dismantling process of the temporary emergency cell and development of the memory orchard and empowerment hubs.



The urban memory orchard planted in the Mosul urban tissue and enveloping the ruins of the mosque, while the Empowerment Hubs are represented by abstract volumes designed by the population.







View of the dome of the Al-Nuri Mosque from inside the new Memory Orchard.









View of the Al-Nuri Mosque gate from the street, which has become the entrance to the new Memory Orchard.





### 3.6 Future

*Our need is for a shared home, and this home must be ours, built from our sense of who we are as citizens of this place, and from our wish to restore it, to embellish it, to make it our own, and to hand it on as a gift.*

#### **Battle for Home**

Marwa Al-Sabouni

The concluding sentence reported by the architect Marwa Al-Sabouni in his biographical book “Battle for Home” declares a thought shared by all the people who have suffered the pain of a war, of the death of their loved ones, of the destruction of their city and the loss of their rights. In particular, the right to control one’s life and one’s future. This thesis had the objective of trying to plan the restoration of this right in a post-war situation, intrinsically inserting the factors of freedom at the basis of every point of the action strategy. Freedom to shape your environment and your future autonomously, as well as the freedom to choose for yourself and the time to savor peace, understand its merits, heal your wounds and become ready to look ahead (Bollens, 2006). The open conclusion is an optimistic view of the results of the propulsion system.

In this hypothetical future, after many years from the returning home of the citizens of Mosul, the war begins to resemble a memory, and the binary systems composed of centers for empowerment and orchards of memory would dot the urban framework, which would be sewn together, healthy and homogeneous. A new generation of educated and specialized citizens would take the future of the city in their hands, able to govern and sustain themselves without the help of external agents.

The population, again heterogeneous, multi-ethnic and multi-religious, as it has been since the birth of the Iraqi city, would ultimately be cohesive, peaceful and secure.



Two men hold hands as an Iraqi Special forces intelligence team searches for Islamic State fighters in Mosul.

*Goran Tomasevic, 2016*

## *Conclusion*

The fundamental research question concerns the role of the architect in a post-conflict peacebuilding process, and in particular about how it can play a part in the reconstruction of civil coexistence for sustainable peace. Following the brief of the “Mosul post-war Camp Competition”, the thesis has suggested a system to facilitate the return of displaced people, integrating the strategies made to rebuild the city. This propulsion system constitutes an alternative to the camp, providing returnees with the possibility of re-entry before the houses and infrastructure have been rebuilt, offering however a safe and comfortable accommodation thanks to a network of temporary emergency settlements inserted into the urban fabric. This architectural proposal wants to produce mainly beneficial effects on the population and on its relationships mutilated by the conflict, allowing citizens to start again to live their own environment, meet again neighbors, rediscover a common identity thanks to their architectural and cultural heritage, and become protagonists of the reconstruction of one’s own neighborhood by virtue of a lasting peace. Secondly, as a side effect, the injective action can also have positive effects on the city, both from a reconstruction point of view and from that of its improvement, to smooth out some of the causes that led primarily to the exacerbation of tensions before the war.

We tried to measure the validity of these arguments by comparing them with the recent report “Initial Planning Framework for the Reconstruction of Mosul”, (UN-Habitat, 2019) developed jointly by UN-Habitat and UNESCO. The report describes useful guidelines for the reconstruction of the city in the short and medium term, therefore it does not stand as an alternative to the social objectives theorized here, but rather as a hypothetical solution for the physical rehabilitation of the city to be able to accompany the propulsion system of the society.

The first common point considered is the need for a coordinated multidisciplinary method. In the thesis it is simulated through the inter-university collaboration between the Architecture and International Sciences studies, to represent all those synergistic actions that are necessary for a peace-building process. Other common focuses concern predominant problems, connected both to the city and to social cohesion, such as the creation of an accessible environment to allow the safe return of citizens, the need for public spaces to improve the liveability of neighborhoods, the lack of commercial spaces to make share the economy, the lost documentation and the consequent problems relating to private property, the disposal of debris, the reopening of old schools and the planning of new ones, the heritage and its conservation.

Specifically, in the thesis pilot project, a comparison can be made between temporary emergency cells and the so-called “superblocks” described in the report, which are spatial and organizational city’s independent subdivisions, to facilitate its administration and development. Both allow systematic control of the area they occupy. At the organizational level, they can refer to the typical Islamic Waqf, where the heads of families form an administrative body to make decisions specific to their needs. The most considerable difference between the two systems is that of size, which in the case of the propulsive cell is more limited, due to space where it can be inserted. Perhaps in this sense it would be necessary to develop the strategy so that the “residential sub-cells” go to fill even more widely the urban empty spaces, perhaps even temporarily covering the courtyards of the destroyed residences, defining larger areas, similar to those of the superblocks, and gravitating around the services and social and memorial functions of the main settlements.

The inconsistencies between the two documents instead are mostly derived from the quantita-

tive difference between the data and the means available in the two cases. In particular, the thesis leaves out the problem of the lack of pre-war housing, uncontrollable through an architectural project, and of the consequent informal settlements, which have been incubators for the extremism that led to the destruction of the city. In the pilot project, the intervention site was chosen within the Old City, both by the level of destruction suffered and by the large number of schools and monuments to be restored, data useful for the design theory. However, it can be hypothesized that the general strategy proposed by the thesis, that is the possibility of returning to the city, through the grafting of temporary settlements in the urban fabric, would still be a preferable solution to the field even in informal areas.

In this case, the cell system would develop differently from the pilot project, according to an ad hoc approach (similar to the one proposed by the report) due to the different distribution of places of worship and monuments, different morphological conformation, different problems to face.

Finally, the absence of guidelines related to the reconstruction of monuments, focusing only on the need to preserve them from further damage, leaves to the most critical proposal of this thesis free interpretation: the temporary insertion of the pilot project above the destroyed mosque's site. This was partly disapproved in some questionnaires distributed to the volunteers of "Un Ponte Per ..." due to the risk of offending its sacredness. Moreover, leaving the Great Mosque of Al-Nuri in its ruined state, in the pilot project's specific case, by its great symbolic value, appears to deviate from the bottom-up project strategy. However, the cell is designed in order to provide for the choice of reconstructing or not reconstructing the monument only after the dismantling of the settlement, and consequently, it develops in line with the guidelines of UN-Habitat and UNESCO.

The comparison with the report makes clear that the theoretical results expressed in this the-



sis, despite the difficulties due to the retrieval of updated data, did not deviate particularly from the efforts that are being made for the effective reconstruction of Mosul. In particular, we note great consistency in the recognition of the main problems that need to be addressed in the immediate future.

What will instead be measured over the long term is not considered in these guidelines for initial planning, and this is evident from the reduced presence of efforts to invest the population in total control over their own development. From this point of view, a parallel can be created between the initial emergency phase proposed by the thesis and the top-down approach proposed in the report. The time when organizations like UN-Habitat will leave Mosul is still far away, however, it is explored in this thesis, where a new type of “medium” architect, with a bottom-up type process, will pass the witness of the development of Mosul to its citizens. The active participation of the protagonists of this tragedy, for better or for worse, is fundamental to make them autonomous, realized, and consequently capable of supporting themselves. This, together with education, work, culture, memory, and a healthy and human-sized city, is the recipe for a cohesive and sustained population in its peace process. This thesis has tried to demonstrate that in a peacebuilding process architecture cannot operate without collaboration with other professionals, yet it has a central role and a responsibility that those who study this subject cannot avoid.

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