

# Before the War, War, After the War: Urban Imageries for Urban Resilience

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**Abstract** This article discusses urban conditions in cities that in their recent history experienced war. It puts the social component of the city into relationship with the destroyed and dangerous urban environment. In the period between 1992 and 1996 in Sarajevo and in other Bosnian cities, survival became the most important activity for citizens. In the period directly preceding the war, urban conditions—mobility, infrastructure, and services—started to malfunction. As a result, ordinary city life became an object of new urban imageries influenced by new urban conditions and rules of behavior. The first bombing of the city on 6 April 1992 was a sign that the war had started. It brought with it war urban conditions: lack of public transport, electricity, water, and food. The inability of the city and the people living in it to function normally demanded new patterns of urban resilience, which were partly a product of the city's prewar conditions. Using Sarajevo as a case study, this article examines whether the city had predisaster coping strategies and, if so, the extent to which these plans were used during the war. Finally, the article observes how citizens, with their own imageries about cities, can participate in the creation of patterns of urban resilience and future predisaster strategies.

**Keywords** patterns of urban resilience, Sarajevo, urban conditions, urban imageries, war

## 1 Introduction

The conflict between Serbia and Bosnia and Herzegovina that inaugurated the final phase of Yugoslavia's dissolution began in the small towns and villages of rural Bosnia-Herzegovina. In the course of 1992 Serbian forces positioned their artillery on the hills around Sarajevo. From the first bombing of the city on 6 April 1992, movement in the city was limited, unsafe, and life threatening. This sudden and violent change of the urban situation brought about new spatial organization, led to new understandings of the urban environment, forced development of new pathways for movement within the city, and drastically altered living patterns and rhythms within the urban fabric. Considering the fact that "war is easily distinguished from riots, revolution, and ubiquitous violence" (Vasquez 2009, 19), how do we approach war in its complexity? Vasquez, in his book *The War Puzzle Revisited*, argues

that the Webster's Dictionary definition of a war—"a state of usually open and declared armed hostile conflict between states or nations"—leads us to think about the two World Wars or the Franco-Prussian War (Vasquez 2009, 22). He dedicates an entire chapter of his book to conceptualizing "war." Vasquez analyzes many definitions of the term, studied by different authors in the fields of psychology, anthropology, politics, and sociology. He also relates social components to war: "What is considered war is a product of history—a product of the beliefs, formal and informal laws, and customs of particular period. This emphasizes the notion that war is a social invention, a fact created by an institution that takes certain actions and makes them a thing" (Vasquez 2009, 19). War in former Yugoslavia started after the long political crisis between its federal states, first in Slovenia in 1991 known as the Ten-Day War, then in Croatia in 1991, and moved to Bosnia and Herzegovina in 1992. While war in Slovenia ended after ten days, in the other two countries it continued for the next four years, causing great civilian casualties and structural and property destructions.

## 2 City of Sarajevo: Peace—War—Post War

This article focuses on Sarajevo and its urban war experience through analysis of urban conditions and social relations in prewar, war, and postwar periods. War became an urban subject, like any other activity related to the urban environment. The *Sarajevo Survival Guide* produced by FAMA<sup>1</sup> between 1992 and 1993 shows the city and life of its citizens in a resilient manner. It describes essential practices of people's everyday lives in the format of an ordinary city guide. Efficient city functions in the before-, during-, and after-war periods change as does access to essential urban services. The article examines Sarajevo under siege from the perspective of its citizens and their changing imageries, and explores how everyday life was related to such basic urban functions as defense and security, mobility, information flow, public transport, as well as water, gas, and electricity supplies. Also considered are food production and humanitarian aid and social relations and public cultural events. Ashwort

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(1991), in his book *War and the City*, writes about the difficulties people have in accepting the city as a conflict-laden environment. This reluctance to envisage long-term, violent conflict as part of urban life calls into question whether urbanism and planning strategies have sufficient tools to prepare cities for the risks and conflicts of war and subsequent postwar recovery conditions.

## 2.1 Urban Context

Sarajevo is a collection of cities: in some parts we can see a mosaic or puzzle city; in other parts we can find a built-it-yourself city. This dualistic concept enables people who know the city already, as well as people who have never seen it, to create a powerful image of Sarajevo. The mosaic city concept is a metaphor that gives to Sarajevo an appearance of a territory that always has involved the coexistence of different religions, without building the ghettos, giving to the city a special cultural identity and image.<sup>ii</sup> The puzzle, however, is not constructed in a linear way, but is reconstructed again and again (Viganò 1999). To compose the puzzle or mosaic of Sarajevo, important facts from the past and present that create today's image of the city should be mentioned. Sarajevo was an Ottoman city, an Austro-Hungarian city, a socialist city, an Olympic city, and a war city. At one and the same time, Sarajevo is a multicultural city, a postwar city, a physically fragmented city, and a culturally and administratively divided city. To Bollens (2001, 170) "Sarajevo, Bosnia-Herzegovina is a special, transcendent place." The Ottoman period lasted from 1435–1878, a period in which "the town was planned functionally" (Čengić 2003, xix). Private-individual housing and public activities were organized separately within the town. "The 300 meter wide river valley contained Čaršija—the place for business and trade, while the foothills were filled with mahalas—residential quarters. The business part contained a mosque, administrative court (saray), Orthodox and Catholic Church, Jewish synagogue, caravanserais—places for travelers to stay, [...] public baths, public dining halls, workshops, besistans—shopping centers, clock towers, warehouses and military barracks" (Čengić 2003, xix). Sarajevo's urban territory developed gradually, starting from this small, early Ottoman nucleus. Later administrative and political authorities continued development by adding new parts to the city according to the needs of that historical moment. The city experienced a linear expansion on an east-west axis in the valley of the Miljacka River. Situated in the middle of this valley, Sarajevo is surrounded by hills and mountains, which are developed mostly in their lowest elevations for residential purposes. Like many other cities, it has a very complex urban identity, and through history has been often partially destroyed and rebuilt.

## 2.2 The City in Peacetime

Public evidence of a peaceful prewar urban environment are numerous and interdependent. At its most basic level this was

exemplified by citizens walking about in their city and feeling safe in its environment. As Lawson, Hawrylak, and Houghton maintain (2008, 171): "In an increasingly interdependent world, the security of people in one part of the world depends on the security of people elsewhere [...] The term itself has been associated with efforts to reduce people's vulnerability to a broad array of risks ranging from attacks on civilian populations in civil wars to people's social-psychological well-being." Instead of thinking about peace as a single element, universality disappears and the creation of the patterns of urban resilience for the city independently from war becomes a very complex activity. "Peace is a historically determined process, a social construction of [a] political system—complete with rules of the game, allocation mechanisms, and decision games. Each historical period (and its global culture) has its own form of war and its own form of peace, and the nature of the peace will determine whether war can be avoided for a long or short period of time" (Vasquez 2009, 288). Sarajevo in peacetime<sup>iii</sup> was an important urban and cultural center, the capital of the Republic of Bosnia and Herzegovina, and one of the states of the Socialist Federal Republic of Yugoslavia (SFRY).

To understand at which level the urban conditions of the city operated and to find out whether urban planning had treated war or any other disaster issues during the prewar period, several planning documents were consulted. In the *Program of Construction and Urban Development of Sarajevo for the Period 1971–1985*, for the first time there was a chapter related to the development of the city in terms of national defense and protection from natural hazards (Bokan, Stajović, and Vemić 1971). According to the authors of this chapter, the basic settings of urban planning should provide safety and protection in the urban area. They suggest that for the rapid mobilization and protection of the citizens and their material goods by evacuation from a threatened area, several factors can critically influence the survival of the population and effectiveness of its defense abilities. These include appropriate roads in the city and as connectors to nearby hinterland areas; the direct protection of citizens and their material goods by the construction of dual-purpose facilities that incorporate shelters; the proper location of the commercial buildings, infrastructure, and facilities for food supply, among others.

Bokan, Stajović, and Vemić also conducted analysis on the existing urban context by providing observations on the organization of some urban functions. According to their analysis, Sarajevo airport's location next to the Dobrinja neighborhood represented, in the case of a war, a constant danger for the inhabited parts of the city. This viewpoint was expressed largely because airports are often targets in war, and Sarajevo's airport was built in such close proximity to residential areas. The center of the city, densely populated and occupied by buildings, from the old town of Bašaršija to Marijin Dvor, represented the most unfavorable area in terms of protection of the citizens in case of war and natural disasters. They assessed the planned and already existing

longitudinal spatial development of the city as problematic and unfavorable for the evacuation of the citizens.

The overall study presented in this plan is in the form of guidelines. In constructing their recommendations, Bokan, Stajović, and Vemić assume that in big cities, some areas are under higher risk than others. Creating a plan of the city with the zones of higher and lower risks is important for the improvement of both shelter capacity and protection level. For infrastructure, water, and electricity supply, they recommend, if possible, implementing self-supply stations, with each zone of the city accessible to at least two supply points. In part of the study there are also suggestions about how to protect the city's inhabitants from nuclear attack. The most developed part of the study examines shelters for the people who remain in the city during a disaster period. Shelter space was calculated at 1.15 m<sup>2</sup> per person. In order to plan adequate shelter capacity inside residential buildings and work places, each citizen should be guaranteed one shelter space at home or at work. The concluding part of the study proposed providing shelters in the central parts of the city by building dual-purpose facilities that could be actively used in peacetime, such as underground garages, traffic roads, pedestrian tunnels, commercial and sport buildings, and places for culture and tourism activities. Home shelters should also be planned as dual-purpose buildings, inside the residential blocks or in the underground basements of kindergartens and schools. Shelters intended to protect material goods and serve special purposes (government bodies, communication services, military hubs) were expected to be built as massive buildings with a high level of protection. But the overarching recommendation was that all shelters should have a function in peacetime as well.

This short study is unclear or underdeveloped on many points. Sometimes there is no difference made between what is already done and what should be a part of future planning. There are no maps within the document that for example indicate shelter facilities or evacuation roads. In another study, the *Spatial Plan of the Canton of Sarajevo for the Period 2003–2023* (Institute for Planning of Development of the Sarajevo Canton 2006), there is only one page about citizens' protection and material goods, which is divided in two chapters. The Mine Fields chapter provides brief information on the overall size of the areas that were covered with mines during the last war. The other chapter, Vulnerability of the Area, provides a brief assessment of the danger of the area from war and natural and technical disasters. According to this plan the city of Sarajevo in 2006 had 241 shelters with a total area of 41,675 m<sup>2</sup>. Regarding war it says that there is no danger of any military actions due to the political stability of the region and the presence of international community. From these two documents, it can be concluded that Sarajevo did not and still do not really have predisaster risk-reduction strategies in city planning, or tools that could help the people to approach and resist disaster events. Ashwort argues that: "It is easy to appreciate that defense was [the] continuous and primary preoccupation of the city of the past and that the

relict effects of past priorities have left impact upon the modern city" (Ashwort 1991, 202).

Yugoslavia had the Yugoslavian National Army (JNA) and a common defense strategy for the entire country. Inside the presidency on the federal level there was a military commission responsible for the command and control of the JNA (Dizdarević 2000). Thus, in Yugoslavian crises, the JNA had an important role.<sup>iv</sup> By the end of the 1980s, interstate political and military crises had emerged in the everyday lives of citizens. Transition from peace to war moved slowly. November 29 was celebrated across Yugoslavia as a state holiday, the day of AVNOJ (Anti-Fascist Council of the People's Liberation of Yugoslavia).<sup>v</sup> Štraus describes the uneven observance of AVNOJ celebration in 1991:

Today, it is not a holiday, not even working day [...] In Croatia today is a working day, like the AVNOJ in their history never existed, while in Serbia is a holiday for two days. The entire situation is a paradox. Croats accept the borders of the republics that had been drawn in Jajce, while the Serbs consider [the same] just administrative boundaries [...] Everyone takes what he wants, and interprets the situation as it suits him. Of this country [there] will not remain any trace. (Štraus 1995, 39)<sup>vi</sup>

This is one of the events through which citizens publicly get to know about the interstate political crisis and one of the moments when the collective imagination started to change. In popular culture, this was a big holiday; and in the citizens' imagery, it was seen as a symbol of the unification of Yugoslavia, often celebrated by family holidays at the seaside and in the mountains. In 1991 and 1992, the Yugoslavian National Army began moving with all its equipment, tanks, soldiers, tracks, and so on from one city to another. In some locations, people were happy to see them, waving to the soldiers as they would during a military parade on a national holiday. In January 1992 Štraus writes: "Bosnia and Herzegovina, which was not on its own will, became the biggest military barrack of Europe with ten Yugoslavian Army Corps on its territory" (Štraus 1995, 52).<sup>vii</sup>

For me, the war started on the day in 1992 when my classes in music school were canceled. I was there with my friend peering out the school window at the tanks passing, and waiting for my mother to pick me up and bring me home. Then I saw my father and his friend bringing home a lot of food of all kinds. Food reserves were decreasing and people tried to accumulate foodstuffs as much as possible, even though no one knew for how long we should ready ourselves with stockpiled supplies.

### 2.3 City in Wartime

When did the transition from peace to war end? How can one identify the existence of a war situation and how should one adapt to it? At the personal level everyone has his/her own story related to the war beginning. Image of the city started to change rapidly, lacking essential urban services. New way of life and new spatial practices were introduced. To stay alive and to survive was the occupation of all the citizens.

### 2.3.1 On Defense and Security

On 1 March 1992, as a result of a citizens' referendum, Bosnia and Herzegovina became an independent country, recognized by the United Nations as a "subject and object of the international law" (Del Giudice, Krstanović, and Kovačević 1995, 161). What was happening in the city of Sarajevo two days later? Štraus writes:

Barricades of Serbs who came down from the surrounding hills on 1st and 2nd of March, and blocked the most important traffic crossroads and streets in all directions for entire second day was something [...] to make the] blood freeze if you think what could degenerate from this. And then a wonderful, magnificent, completely unexpected turn happened. Citizens of Sarajevo, some from the east, the others from the west—in the early evening, with children and candles, walk towards barricades demanding that peace return to the city. The heroes on barricades in panic run away in all directions, most of them to the slopes of Trebević, and in the night through Sarajevo were walking citizens, old and young, happy that the bloodshed was stopped. (Štraus 1995, 62)<sup>viii</sup>

After the referendum, problems began for the United Nations troops stationed in Sarajevo. A massive citizens' peace demonstration took place at the beginning of April. It lasted three days, and on the dawn of April 5, Serbian snipers attacked the people. The first victims fell. Even though the citizens had expressed their anti-war position, in 1992 Sarajevo was besieged and for four years the city suffered countless bombs, gunfire, and attacks by tanks. Urban development of the city in the valley of the Miljacka River, surrounded by hills and mountains, following the natural landscape was a perfect situation for the siege of the city. On the hills and mountains appeared:

Two hundred and sixty tanks, one hundred and twenty mortars, and innumerable anti-aircraft cannons, sniper rifles and other small arms. All of that was entrenched around the city, facing it. At any moment, from any of these spots, any of the arms could hit any target in the city. And they did, indeed—civilian housing, museums, churches, cemeteries, people on the streets. Everything became a target. All exits from the city, all points of entry, were blocked. (FAMA 1993, 5)

The interesting image of interplay between the urban and rural landscapes turned into a hostile confrontation, rural against urban, creating two fields of action distinguished by different strategies and different narratives: destruction and survival (Mazzucchelli 2010).

While the government of the newly-independent, and now at-war, Bosnia and Herzegovina tried to organize territorial defense<sup>ix</sup> of the state capital, the citizens started to adapt their everyday life to the new war geography of the city. The evidence for the existence of such a new geography is the *Sarajevo Survival Map* created by FAMA. The map contains text legends and portrayals of the siege elements: types of guns surrounding the city, the anti-sniper protection walls, a secret underground tunnel, survival gardens, and other strategic urban elements (Figure 1).

### 2.3.2 Conditions of Urban War and Everyday Resilience in Practice

Can a city be imagined and planned for a war? The city as battle terrain can be a subject of urban siege and urban battle. That was the case of Sarajevo, even if Ashwort (1991) in his book *War and the City* notes that a city as a battle terrain should be avoided. He gives a separate analysis of urban siege and urban battle, where for the sieges "the objective is the city itself," while urban battles "are conflicts in which one of the participants has the characteristics of an irregular force of one sort or another" (Ashwort 1991, 114). In both cases war to and in the city is the war against the people and the city. In urban terms "the siege—strategy par excellence of the 'war to the city,' uricide—paradoxically becomes a moment when hidden structure of the urban form unveil more clearly" (Mazzucchelli 2010, 167).<sup>x</sup> Some parts of the neighborhoods inside the city of Sarajevo, such as Grbavica and Dobrinja, were divided in two, so the front line was inside and in between the buildings, or on the opposite river sides (attack and defense).

The city, although unsafe, itself became a survival resource. The previous peacetime functions of the buildings took on new functions as urban shelters—for family, public, and spontaneous general uses. Many buildings' wartime use changed from their peacetime functions. For example, schools often were used as refuge shelters. Instead of meeting in classrooms, the children had classes in apartments, underground shelters, and building staircases. The urban green areas were turned into urban gardens and cemeteries. The trees in the city were used for heating and cooking. The city was constantly transformed under the dual pressures of military destruction on the one side and survival strategies on the other side. The image of a war city grew day by day. At the very beginning, detonations broke the glass windows of the buildings. People sealed their windows by using UNHCR (United Nations High Commissioner for Refugees) plastic foil that was mainly provided for this purpose.

Life in the city occurred on two vertically divided levels: the overground city and the underground city. The overground city was an extremely dangerous, high-risk battlefield. People's movements were reduced to a minimum, and then only carried out to satisfy essential needs such as acquiring food and heating supplies. In contrast, the underground city became more used as the place where people spent most of their time. Their life routines and activities began moving to the underground or semi-underground levels: sleeping, eating, playing, cooking, creating culture, and so forth. Ordinary everyday life turned into total emergency. Besides for hiding from bombing, new underground living spaces needed to be adapted for everyday living.

### 2.3.3 On Mobility—People Transport and Information Flow

When the war started, public transport in the city literally stopped. Sarajevo airport, controlled by the United Nations

Protection Force, was the only possible way to enter and exit from the city. As Sontag remembers her experience in the city: “To leave Sarajevo and an hour later, to be in a ‘normal’ city (Zagreb). To get into a taxi (taxi!) at the airport. . . to drive along streets where the traffic is regulated by traffic signs, to drive along streets and watch buildings with the roofs untouched, the walls undamaged by grenades, with glass in the windows. . .” (Sontag 1997, 13). The main tramline in Sarajevo follows the longitudinal line of the city, from east to west. Buses and trolleys were also routed through the neighborhoods in the valley. Sarajevo had a cable railway that connected the old town and mountain Trebević. But none of these systems could continue to operate due to the military attacks, electricity cutoffs, and overall passenger security. The whole city was under constant sniper attack and bombing; citizens moved in the city by foot and by bicycles. According to the *Sarajevo Survival Guide*:

City transportation—trams, buses, vans, trolleys, cable railway—does not exist [. . .] Cars are running, if run by or for officials. Most were taken away from private owners, with or without a receipt, especially if they ran on diesel. New models appeared, homemade armored cars, which look like moving closets, only with a hole in front of the driver. They are slow, shaky and loud. (FAMA 1993, 58)

To transport bulky items such as wood for heating or water, people used wheelbarrows, self-built transport boxes, baby carriages, and children sleds in the wintertime (Figure 2).

Citizens started to move around their city differently, hiding from danger, walking in the areas that were protected from sniper fire. Also “the topography of the city has been redefined in function of the careful observer, who in front had a city, an unrevealed spectacle; the ‘visual cones’ of snipers determined which parts of the cities are forbidden and which parts are ‘safe’” (Mazzucchelli 2010, 167),<sup>xi</sup> see Figure 3. There were a myriad of spatial strategies employed to protect people from sniping attacks, including running across the open crossroads (Figure 4 (top)). Other tactical solutions included erecting temporary high walls made from the remains of burned cars and metal fences, walking next to United Nations armored cars, and suspending large colored linen sheets as visual screens between buildings (Figure 4 (bottom)).

In 1993, under the Sarajevo airport an underground corridor, whose entrance was inside the private house of the Kolar family, was built. The Tunnel (as it was called) became crucial to Sarajevo’s efforts to avoid a total siege of the city by the Serbian army. It was used mainly for military purposes



**Figure 1. Survival map of Sarajevo, 1992–1996**

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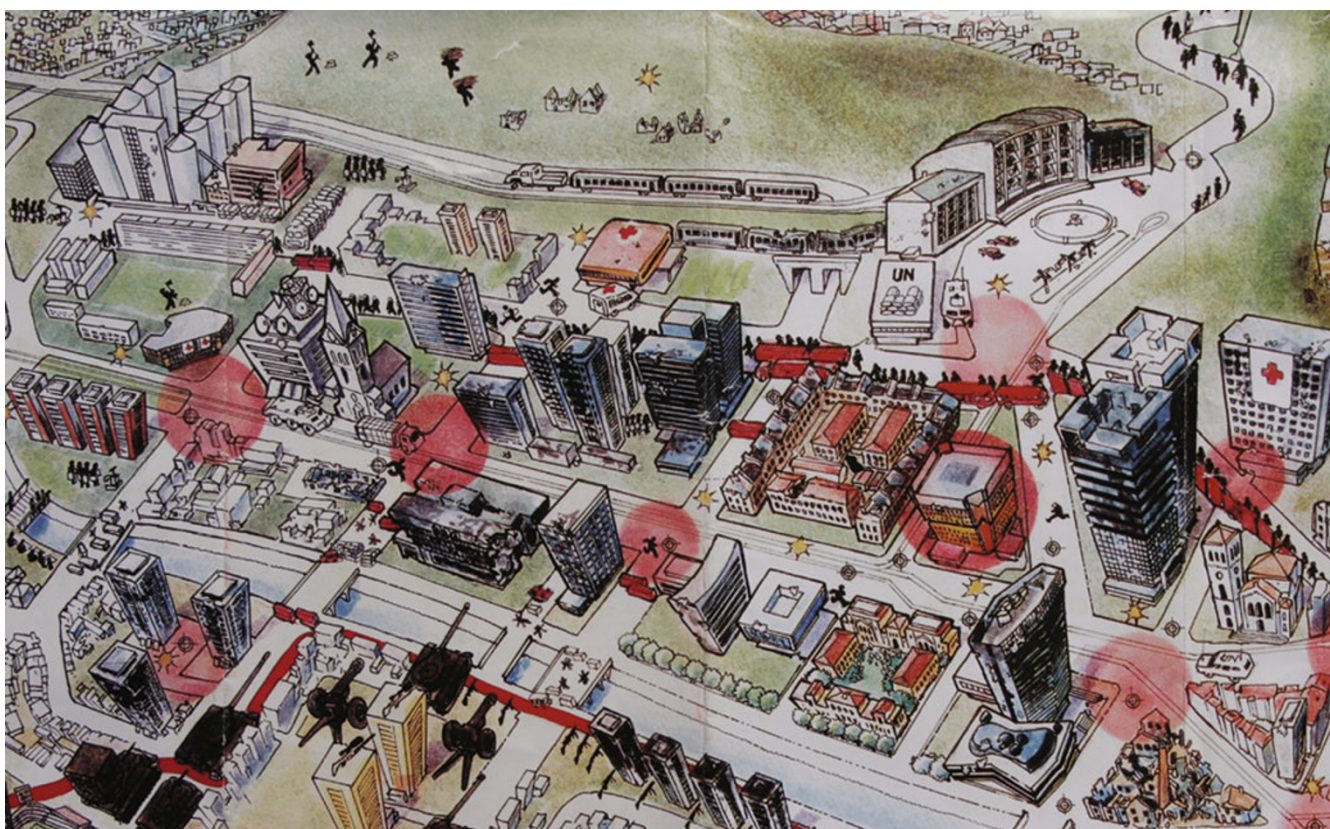
**Figure 2. Alternative transport with decorations (left); baby carriage for water transport (right)**

Photographs by Z. Kanlić, 12 April 1992. Reprinted with permission from Z. Kanlić.

and to bring food, fuel, medicine, and weapons into the city. Sometimes it was also used in the opposite direction to bring the severely injured out from the city.

The flow of information and the methods of being informed became complicated as well. Phone lines were cut off immediately at the beginning of the war. *Oslobodjenje*

was the only newspaper printed during the war, in reduced size and limited editions. Several radio stations broadcast programs 24 hours a day. As FAMA reports in the *Sarajevo Survival Guide*: “Rumors are the most important source of information. They spread with incredible speed and often mean more than news transmitted through the official



**Figure 3. Details from the Sarajevo Survival Map**

Note: Red circles mark the zones that were under sniping attack. On this map are also visible protection walls from sniper, people in the queues for water, people providing wood, and so on.

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**Figure 4. People running in a place that was dangerous from sniper attacks (top); large colored linen suspended between buildings (bottom)**

Photographs by Z. Kanlić, 1992. Reprinted with permission from Z. Kanlić.

channels. They regularly—“this time for sure”—report on military intervention, on the siege of the city being lifted, on establishing corridors and safe havens” (FAMA 1993, 29).

### 2.3.4 Lifelines—On Infrastructure, Water, Gas, and Electricity Supply

Once citizens got used to the war and the danger present in the external environment, the next important area to deal with

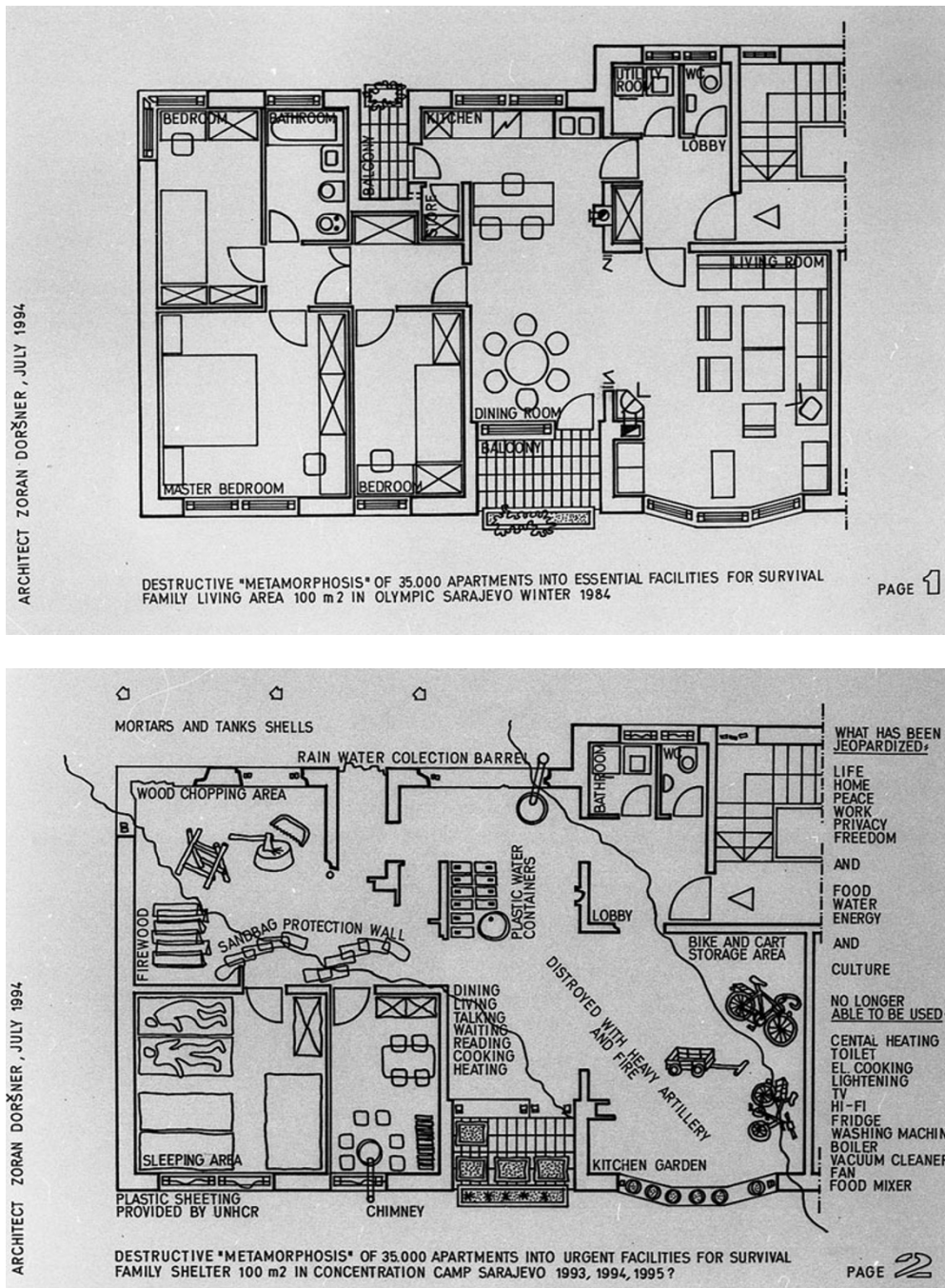
was the search for resilient coping strategies in their own homes (Figure 5).

The top drawing shows an apartment for four to five family members where all the daily activities and duties of the family at home in the peace time could occur. Family members slept in the bedrooms on the left side, while cooked, ate, rested, and enjoyed their free time on the right side of the apartment. The bottom drawing shows how the organization of the apartment had changed due to the war circumstances and the new habits and needs for survival activities. Dining, living, talking, hiding, cooking, sleeping, and so on was organized in one quarter of the space of the apartment, where through the empty socket of a window a makeshift chimney was attached to a wood-burning stove. In the place of the kitchen, dining table, small bedroom, and toilet there were rainwater collection barrels, a sandbag protection wall, and wood chopping area. In the place of the living room there was a bicycle and alternative objects for transporting different stuff, and a little garden in flowerpots.

In Sarajevo, “throughout the siege, the destruction of electric, gas, phone line and water facilities has been used as a weapon against the inhabitants of the city” (United Nations Commission of Experts 1994). Lifelines no longer functioned; drinking water was lacking; electricity and gas shortages were interconnected influences on everyday life. Sarajevo had several main water stations that supplied the city using a centralized main pumping system, which was dependent on electrical power. During the war, water cutoffs were frequent and could last for days or weeks, due to a lack of electricity or episodic structural damage. The old water fountains, dating from Ottoman rule and located in Old Town, together with a few functioning remaining water sources, became the only water supply alternatives in deficit periods. The queues for water were long and dangerous, often attacked by sniper and shellfire from the besieging forces. These attacks on many occasions resulted in the deaths of many civilians. People’s vulnerability was even higher because they were obliged to carry the water for long distances between the water sources and their homes. In the *Sarajevo Survival Guide*, water is placed in the category of essential needs. And regarding alternative water sources, such as rain,

[ . . . ] it is the rain that brings consolation. Groove gutters are, unfortunately, damaged. People stand in line, in the rain, waiting with buckets for their portion of rainwater. Day or night—it doesn’t really matter. People drink it and use it for doing laundry. It is very good for your hair, which becomes silky and shiny. . . . They ration water as if they were Bedouins. Long hair can be washed in a liter and a half, the whole body in two or three—all in little pots and pans, with water lukewarm or cold. (FAMA 1993, 13)

Being without electricity and gas for heating became the norm in besieged Sarajevo. Only the light of shell bursts, tracer bullets, and the fires that broke out in damaged buildings disrupted the presence of eternal darkness in the nighttime city. At the beginning of the war, as an alternative



**Figure 5. An average Sarajevo apartment before the war (top) and during the war (bottom)**

Source: Association of Architects of Bosnia and Herzegovina.<sup>20</sup> Reprinted with permission of the Association.

for electric light, people used candles. But as time passed, they invented all sorts of oil lamps. For cooking and heating, they used self-made tin stoves (Figure 6).

Fuel was provided by wood from the city's green areas, books, old shoes, furniture, and any found, flammable object. After the second winter under siege, all the city's trees that people could reach were burned for domestic purposes. Every house had a minimum of two stoves of different sizes. Many

residential buildings did not have chimneys, so everyone was obliged to make his own flues to guide the smoke out of the window. Balconies were also used for cooking and as open-air refrigerator in the wintertime. On the small river in the Alipasino Polje neighborhood, people fashioned self-made water mills to produce electricity (Figure 7). Many public institutions, such as hospitals, used diesel-powered generators.





**Figure 6. Heating and cooking stoves**  
Photographs by Z. Kanlić, 23 May 1993. Reprinted with permission from Z. Kanlić.



**Figure 7. Water mill for generating electricity**  
Photograph by Z. Kanlić, 15 September 1993. Reprinted with permission from Z. Kanlić.

### 2.3.5 On Food Provision—Production and the Lack Thereof

The problem of food sufficiency emerged at the very beginning of the war. All regular shops closed and a black market developed (Figure 8). People finished their limited food

reserves very quickly. Some open city markets continued to function with reduced foodstuffs in stock, but these commercial institutions often were the subjects of artillery attacks and damaged or destroyed by shelling. Because the siege of Sarajevo was very long, the city came to depend on humanitarian aid, which included food and non-food items



**Figure 8. Market on the street, selling foodstuffs and other items**

Photograph by Z. Kanlić, 1992. Reprinted with permission from Z. Kanlić.

managed by the United Nations and its agencies. Food arrived in Sarajevo by humanitarian airlift at the city airport. The besieging forces often blockaded these humanitarian aid deliveries.

This article is not to reconstruct how well the humanitarian aid system functioned during the siege in Sarajevo. It focuses, rather, on what alternatives citizens utilized to meet their nutritional needs. City bakeries, even with many difficulties, continued to produce bread. When there was no electricity, the bakeries ran on diesel-powered generators. In case there was no fuel to make bread, flour was distributed to the citizens (Del Giudice, Krstanović, and Kovačević 1995). One of the widely adopted practices was to exchange personal possessions, like jewelry and electrical goods, for food. Everywhere in the city, people started urban gardening on their balconies, in their flowerpots, and on the green areas in between residential blocks that were protected from shelling and snipers.

Many of these urban gardeners sold their vegetables or traded them for other items. Food preparation always depended on the available ingredients, and “a war cookbook emerged spontaneously, as a survival bestseller. Recipes spread throughout the city very quickly. People are healthy, in spite of everything, for no one eats animal fat anymore, nor meat, nor cheese—meals are made without eggs, without milk, onions, meat, vegetables” (FAMA 1993, 19). The food to eat was simpler than ever before.

### 2.3.6 On the Art of Living by Creating Public Culture

In Sarajevo occurred art of survival, war art, and art in and about dangerous environments, which could be named resilient art. One of the aims of a siege as a war strategy is to breakdown civilian moral and the will to resist. It impacts everything from art to everyday life. Searching for water, standing in a queue, looking for the best way to transport this bulky, heavy necessity, optimizing water consumption, and

reusing waste water as many times as possible consumes a very large portion of a person’s available time. Resolving all other problems: food preparation—cooking the same ingredient in ten different ways, fabricating the objects for heating and lighting, . . ., imagining the peace are time demanding activities but not on the same scale as water acquisition. “The culture helped citizens to survive. The theater halls were opening and closing depending on the days and danger” (Matvejević and Stoddart 1995, VIII).<sup>xiii</sup> At the beginning of the war on 17 May 1992 the Sarajevo War Theater (*Sarajevski ratni teatar*—SARTR<sup>xiv</sup>) was founded. One of their plays was named *Shelter*, which actors performed in the shelters in different neighborhoods in Sarajevo (Figure 9).



**Figure 9. Shelter, theater play performed in a shelter**

Photograph by Z. Kanlić, 1992. Reprinted with permission from Z. Kanlić.

Cultural production was influenced by and made under war circumstances, in which the artists approached the psychological side of the siege and with their works reflected what was happening in the city. “How did it start? After the initial confusion, artist [sic], theater workers, actors, directors, musicians, poets, writers, film workers, and all others who remained in this city stood up as one person to defend the integrity of the country and this city” (Karamehmedović 1997, 64). Artists were highly motivated to exhibit, to perform, to play music, and more. Everything could be viewed as an experiment. Cultural events happened in all kinds of spaces: important destroyed or burned buildings, people’s homes, shelters, repaired open spaces (Figure 10).

Despite dangerous and life threatening conditions cultural life was very important and necessary survival activity as well. It helped people to keep alive their memories of the past, while enhance their hopes for a better future.

## 2.4 The City after the War

Can war ever be avoided, or is humanity condemned to a history of war and a struggle for power? (Vasquez 2009).

The physical and cultural city that existed immediately after the war represented an evolutionary response to the



**Figure 10. Art exhibition in the burned central post office**  
Photograph by Z. Kanlić, 1993. Reprinted with permission from Z. Kanlić.

many emergency conditions that appeared during the war. The evolved city was an urban ruin: dirty, fragmented, divided, dangerous, and different. The transition from war to peace often can be a very long and complicated process. In the case of Bosnia and Herzegovina, the war's end was purely a political act, based on negotiations and the trading of the country's territory. By signing the Dayton Peace Agreement<sup>iv</sup> in 1995, the war officially ended in Bosnia and Herzegovina. By the terms of the treaty, the country's prewar territory was divided into two entities: a Republic of Srpska, where there was a Serb majority, and the predominantly Muslim and Croat Federation of Bosnia and Herzegovina.

The creators of the peace accord that divided Bosnia into two entities used maps with a scale of 1:600,000. From this example we can see the highly generalized level at which politicians thought about the future of the territory, city, and people living there. The international community<sup>xvi</sup> continued to be present in the Bosnian territory to oversee and follow through with the civilian aspects of the peace accord, to guarantee the peaceful stabilization of the territory, and to help the reconstruction of life and infrastructure. A new emergency could be found in the processes of reconstruction, the removal of mines from the countryside and the cities, the return of refugees to their prewar homes, and the promotion of reconciliation and state building. Shortly after the war in 1996, a visitor who spent some time in Sarajevo wrote: "The city was as small as ever, easily walkable; the scale of the body, well attuned to restrictions in public transportation that it always despises anyway, was the scale of the action. Open to buses from several directions, closed to trains and planes that could carry 'real people' [. . .] the former capital of uncertainty was breathing easier, yet not certain of anything in particular" (Wagner 1997, 9). The bombing had stopped, and infrastructure (not immediately in all parts of the city) had started to "function": public transport, electricity, gas, and water became regularly available. It was possible to buy many food products for affordable prices. The situation had changed; the most important survival needs during the war

became the basic needs in the peacetime. And postwar citizens? Their imagined peace had come true, but how far could their imagination of the future extend in this divided, destroyed city, located in a divided, destroyed country, governed by the international community?

### 3 Urbanism: Resilience and War

Relying on the analysis of the urban conditions of the city of Sarajevo in prewar, war time, and postwar periods, this study has searched for the elements that can be related to resilient urbanism and planning. The citizens' experiences of everyday life in war help us to understand resilience in practice in the urban environment. "The city presents a range of targets distinguished not only by their physical density, but also by their practical and symbolic importance" (Ashwort 1991, 88). After 11 September 2001, the need for urban resilience in cities against human threats, and against terrorism specifically, became an acute concern. The United Nations International Strategy for Disaster Reduction definition of resilience is "The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions" (UNISDR 2007). Coaffee, Wood, and Rogers (2009) present an overview of resilience definitions. They are all very similar and their key words are: capacity, adjust/adapt, recovery, and hazards/threats. The most interesting resilience explanation they present is from the UK Government, which derives from a national policy perspective, that is, ability of the country to detect, to prevent and respond with speed and certainty to major emergencies, including terrorist attacks. They also give an example of resilience at the urban level that has been adopted by the United States as a national policy since 2003 about the protection of "lifelines": system of roads, utilities, and other support facilities, designed to continue their functioning during natural disasters and terrorist attacks. In *The Responsible Urban Planner* chapter, Coaffee, Wood, and Rogers relay Godschalk's arguments about a process of designing resilient cities. "He notes that: If we are to take the achievement of urban resilience seriously, we need to build the goal of the resilient city into the everyday practice of city planners, engineers, architects, emergency managers, developers and other urban professionals. This will require a long-term collaborative effort to increase knowledge and awareness about resilient city planning and design" (Coaffee, Wood, and Rogers 2009, 238–39). It is difficult to consider that urban resilience could be a universal concept. It can vary depending on national policies, disaster history, and security priorities of the single country. If we imagine that the contemporary resilient city is a complex system supported by urban and social resilience, where does one search for its elements?

### 3.1 Developing the Patterns of Urban Resilience

Assuming that the pattern<sup>xvii</sup> of urban resilience is a combination of the creative and innovative spatial practices found in everyday life, social rules and values, and thoughts on disaster risk in urban environments. In the book *A Pattern Language*, patterns are presented as entities that create elements of this language: “Each pattern describes a problem which occurs over and over again in our environment” (Alexander et al. 1997, x), “No pattern is an isolated entity” (Alexander et al. 1997, xiii). Individual patterns could be seen as a relation between problem and solution, “but in a very general and abstract way—so that you can solve the problem for yourself, in your own way, by adapting to your preferences, and the local conditions at the place where you are making it” (Alexander et al. 1997, xiii). In the case of Sarajevo we could add that making a pattern in your own way was also based on the needs for everyday life and living in such extreme conditions, not only adapted to your own preferences. According to Viganò, patterns leave room for innovation, but they can be extremely difficult to govern (Viganò 1999). To position the research for patterns of urban resilience based on experiences from Sarajevo, the pattern analysis by Bobić is of particular relevance. Bobić wrote referring to the book *A Pattern Language* in *Archis*: “A pattern language can be approached at two levels. It can be seen as a manual for *do-it-yourself city*, or as a large memorandum of what the city should be: a place for people, made by people themselves” (Bobić 1996, 60). Materialization, form, and function of patterns of urban resilience have an unlimited number of possibilities.

### 3.2 The Examples of Patterns of Urban Resilience

The space strategies used to protect people from sniper attacks in Sarajevo could be named contemporary city fortification and protection. The main element of such fortifications is a contemporary temporary urban wall. They can be mobile, free standing, or fixed onto the walls of the opposite buildings. It is a temporary pattern of urban resilience. Their general size, length, height, and thickness depend on the accessible materials and the level of protection needed. Urban walls have medieval origins and were constructed to protect towns. The main characteristic of a medieval wall is “protection made permanent and regular” (Mumford 1997, 16). Today to plan such fortifications in order to protect a certain city would be impossible. Instead, contemporary temporary urban walls rely on the existing urban fabric of which it becomes a part, closing the space between existing buildings. When a period of risk has ended, these walls can be removed.

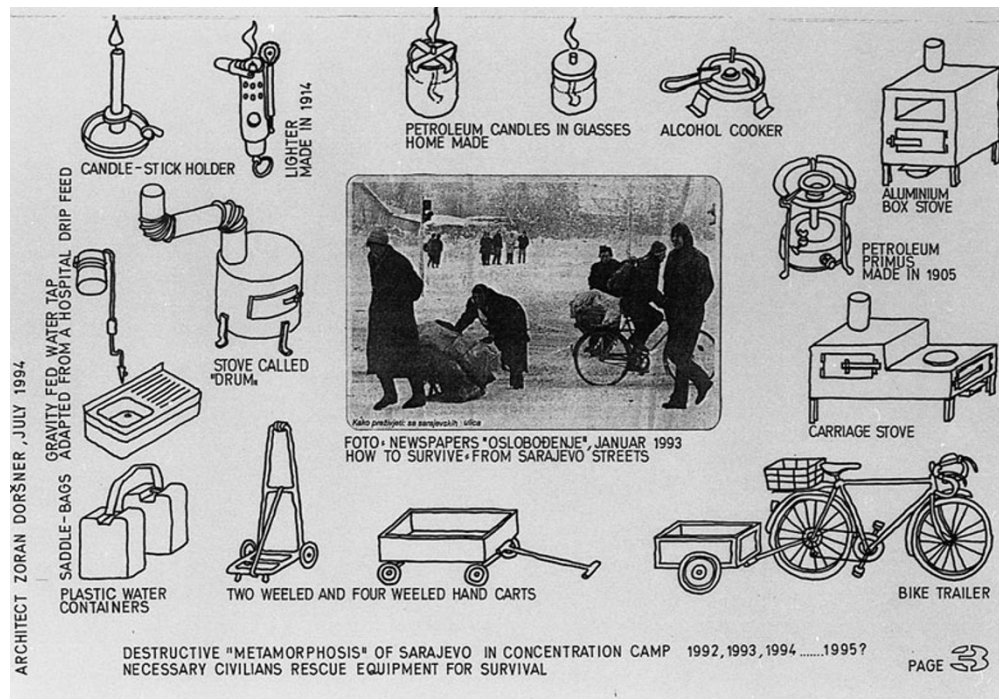
This is exactly what happened in Sarajevo: contemporary temporary urban walls were made from destroyed cars, huge linens (Figure 4), metal boards, and other available materials. “To inhabit the spaces of walls, edges, peripheries, borders,

and the “in-between”—the spaces of the extreme conditions brought into being radical transformations—is not a matter of creating entirely new knowledge, even less of discarding existing ideas or systems of knowing, but rather a matter of expanding them, precisely at their former, or present, limits” (Woods 1997, 13). The citizens of Sarajevo practiced everyday resilience while providing water, food, and heating fuel. The same can be said for the construction of different objects for domestic use, which could help them to survive, such as the innovations employed for transportation, heating, and lighting during the night (Figure 11). Each object was an adaptation of some already existing object, partially changing its original shape and giving it a new and different use as well.

The collection of rainwater and the generation of electricity from water mills installed on the river is another example of a pattern of urban resilience. The people in Sarajevo collected rainwater individually with plastic buckets, or generated electricity from self-built water mills on the river. However, there could have been other, more resilient strategies. Renewable energy sources such as solar, wind, rainwater or stream water could be used in resilient urban planning.

During periods of heightened disaster risk, and especially during war, city authorities should guarantee mobile urban services, not only sanitation units, but food markets or mobile service for the humanitarian aid distribution. The reason is that during disasters, cities become fragmented and vulnerable territory. One of the characteristics of the pattern of urban resilience is mobility, which can guarantee better security conditions to the people. Urban services should reach the people independently at the location where they live in the city.

The *Sarajevo Survival Guide* and *Sarajevo Survival Map* (Figure 1) made by FAMA represent a new form of guide to the topography of life and death. It has to do with imaginary representations of non-existing urban plans. This example could be used in resilient urban planning, where the city planners try to represent disaster risks on maps, imagine vulnerable or secure zones of the city, indicate existing shelters, propose different combinations of alternative roads and stops for mobile urban services, and so on. “As the practices of different urban world[s] intersect, new, provisional, and often ephemeral urban worlds are made” (Simone 2004, 240). This operation is very similar to those carried out in the exercises of students in architecture and planning schools. The only difference is that students often imagine in their projects the optimal and most beautiful situations for cities. Considering how complex the subject of resilience is in cities in emergent circumstances, the conclusion would be that we need interdisciplinary approaches to develop our resilient cities. One part of that interdisciplinary treatment could be the idea of constant research for and development of the patterns of urban resilience that could be imagined as constitutive elements for resilient city planning, where it is not possible to



**Figure 11. Invented objects for domestic use during the war**

Image: Association of Architects of Bosnia and Herzegovina. Reprinted with permission of the Association.

decide the quantity of resilience, because the resilience as imagining is a progressive condition.

## 4 Conclusion

Comparing the definitions of urban resilience already mentioned above and the war experience of the people in the city of Sarajevo, it is difficult to find the connections between theory and the experienced reality. During the war a planned city slowly and literally disappeared and for the citizens urban resilience became a subject to learn. The different processes of urban life that govern a city at war in the end created an imagined city. Where does one search for the connections between these two urban entities: the planned and the imagined city? If we take from Sarajevo's experience the examples that represent patterns of urban resilience, the main consideration would be which patterns, and how many of them, could be used in some other urban war location in the world. Perhaps this could confirm the nature of the proposed concept of the pattern of urban resilience that is a combination of the creative and innovative spatial practices for everyday life, social rules and values, and thoughts on disaster risk in urban environments. Then patterns of urban resilience would have general characteristics learned from the locations that experienced war or natural disaster in relation to the overall context for which these patterns are intended to be planned and used. From the Sarajevo example, we can see that urban resilience was present everywhere, especially in the cultural

life of the citizens. Planning for urban resilience and resilient city planning should not only be concentrated on the essential urban functions, such as water, gas, food, and electricity supply. Based on the Sarajevo example, it is possible to conclude that it is difficult to plan a total, complete, and definitive urban resilience system, because so much of the resilience required appeared spontaneously from within the Sarajevo population. Maybe a city and its people can be prepared for the worst case scenarios of eventual war or natural disaster. But the reaction and behavior of the citizens once disaster happened cannot be planned. Finally, any resilient city should have a basic urban resilience plan, which can help at the very beginning of a disaster to respond positively to disruption. Such a plan can provide a good base from which to lessen material damage in a city, and as a consequence should reduce loss of human lives.

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## Notes

- i FAMA ("report" in Latin) is an independent production company founded in the prewar period, worked primarily in audio and video media. It was the organization that produced the *Sarajevo Survival Guide* and *Sarajevo Survival Map*. The contributors of the *Sarajevo*

- Survival Guide* are Miroslav Prstojević (text), Željko Puljić (photos), Nenad Dogan (design), Maja Razović (editor), Aleksandra Wagner (editor and translator), and Ellen-Elias Bursać (translator). The contributors of the *Sarajevo Survival Map* are Suada Kapić (author), Ozren Pavlović (graphic designer/illustrator), Drago Resner (photographer), Nihad Kresevljaković (text author), Emir Kasumagić (editor), and Vanja Matković (translator). Today FAMA is registered as FAMA International and FAMA Collection represents a virtual bank of knowledge dedicated to the Siege of Sarajevo 1992–1996.
- ii Muslims, Jews, Roman Catholics, and Orthodox Christians have lived in Sarajevo's territory since the beginning of Ottoman rule.
  - iii In this part I refer to Sarajevo in 1990 and before.
  - iv For more details see Dizdarević 2000, *From Death of Tito to Death of Yugoslavia, Testimonies*, Chapter X: The Role of the Military Forces in Yugoslavian Crisis.
  - v During the second session of AVNOJ in Jajce in Bosnia and Herzegovina on 29 November 1943, its members decided on Federalization of Yugoslavia. Until its dissolution, the countries involved were: Slovenia, Bosnia and Herzegovina, Croatia, Serbia, Macedonia, Montenegro, and two autonomous provinces Kosovo and Vojvodina.
  - vi Translated from Bosnian to English by the author.
  - vii Translated from Bosnian to English by the author.
  - viii Translated from Bosnian to English by the author.
  - ix Since the beginning of the siege, the First Corps Sarajevo served as the Bosnia and Herzegovina (BiH) defensive force in and around Sarajevo. Most assessments characterize the First Corps Sarajevo as superior to the besieging forces in infantry numbers, but clearly deficient in its firepower. The besieging forces, the Sarajevo Romanija Corps, is the Bosnian Serb force of the Bosnian Serb Army (BSA), which had surrounded the city since the beginning of the siege. It is the successor of the same unit of the Yugoslavian National Army (JNA), which occupied the same position until May 1992. There are indications that early in the siege, the JNA was involved in the fighting in Sarajevo. Bosnian officials frequently charged that JNA tanks joined Bosnian Serb forces in barrages, and that the JNA provided the Bosnian Serb forces with logistical support and protection. In late April 1992, the BiH government ordered the withdrawal of all JNA forces from its soil. The government in Belgrade announced that it would withdraw from BiH all troops who were not residents of the Republic. Since most of the JNA troops in BiH were Serbs of Bosnian nationality, this withdrawal policy reportedly had little effect. Some 80,000 Yugoslav soldiers were thereafter transferred with their equipment to the Territorial Defense Forces of the Serbian Republic of Bosnia and Herzegovina (SRBiH) (United Nations Commission of Experts 1994).
  - x Translated from Italian to English by the author.
  - xi Translated from Italian to English by the author.
  - xii These drawings are part of the exhibition that in February 1995 was on view at Parsons School of Design in Greenwich Village. Exhibition Sarajevo Dream and Reality "presents 14 projects by student architects and professionals from Sarajevo that respond creatively to the city's destruction" (Muschamp 1995). The exhibition was made in 1994 by members of the Association of Architects of Bosnia and Herzegovina and curated by Professor Rajka Mandić.
  - xiii Translated from Italian to English by the author.
  - xiv <http://www.sartr.ba/>.
  - xv The Dayton Peace Accord was an initiative launched by the United States in the autumn of 1995. Proximity negotiations between the warring parties, represented by Serbian President Slobodan Milosevic, Croatian President Franjo Tuđman, and Bosnian President Alija Izetbegovic, opened at the Wright-Patterson Air Force Base in Dayton, Ohio on 1 November 1995. The three

Balkan presidents formally signed the document on 14 December 1995 in Paris (SETimes.com. 2005).

- xvi Office of the High Representative (OHR) appointed by the United Nations is an ad hoc international institution responsible for overseeing implementation of civilian aspects of the accord ending the war in Bosnia and Herzegovina ([http://www.ohr.int/ohr-info/gen-info/default.asp?content\\_id=38519](http://www.ohr.int/ohr-info/gen-info/default.asp?content_id=38519)). The role of SFOR (Operation Joint Guard / Operation Joint Forge) was to stabilize the peace in Bosnia and Herzegovina. This operation was brought to a successful end on 2 December 2005, which was the launch date of the European Union's follow-on EUFOR (<http://www.nato.int/sfor/>). There were also many nongovernmental organizations working on the civil reconstructions, human rights issues, and different relief projects.
- xvii For the explanation of patterns I rely on the books *Elementary City* by Viganò published in 1999 and *A Pattern Language* by Alexander et al. published in 1997, and the *Archis* article *A Timless Pattern Language* by Bobić, published in 1996.

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