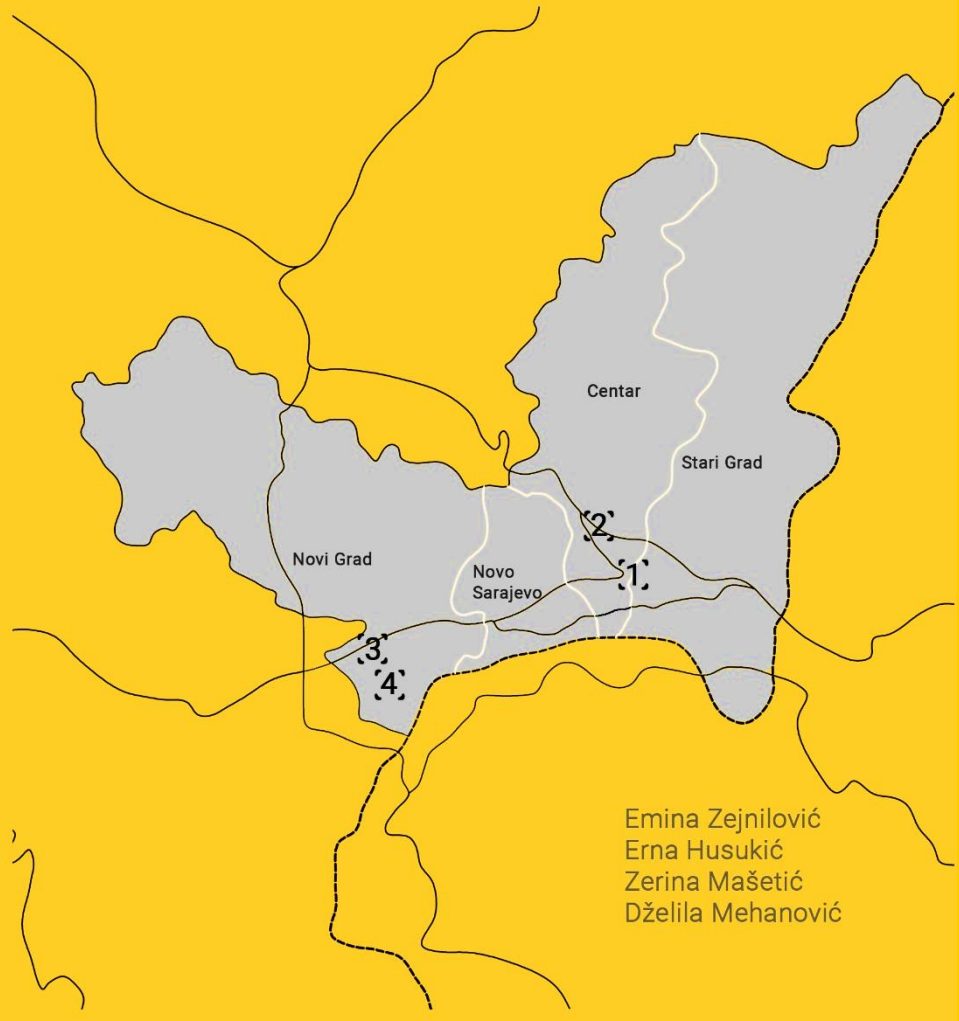
# PEDESTRIAN BEHAVIOUR & ARTIFICIAL INTELLIGENCE
# SARAJEVO STUDY

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# PEDESTRIAN BEHAVIOUR AND ARTIFICIAL INTELLIGENCE - SARAJEVO STUDY

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# CONTENT

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# PREFACE

Interest in this study cane from **spontaneous social and architectural interventions in urban environments that** were triggered into replay during the COVID-19 pandemic, as citizens across the globe made enormous endeavors to find the ordinary under extraordinary living circumstances.

When societies and spaces are exposed to large-scale, unexpected situations for long periods of time, visible spatial and societal shifts are created, and their reciprocal connection becomes particularly apparent. A question arises: how did the contemporary model of high-rise, high-density city respond to the imposed social changes caused by the COVID-19 pandemic?

Images and videos of people singing from windows and balconies have traveled the world in 2020, displaying the natural need for socialization, community, belonging, and protesting the seclusion that was aggressively imposed by the pandemic. The recommendations for new, enforced, but 'safe' social conduct forcefully restricted human contact and was very much conflicting with the instinct and inborn human nature.

Parallelly, limited circulation within and between cities and countries created heightened demand for open public spaces locally that were identified as crucial social assets in times of crisis s. A square meter more of free space was in high demand during 2020 and 2021 in urban environments, when maintaining social distance was almost equivalent to staying alive. The role of public space as a material realization and constructor of the physical realm within which we live, move, communicate, gather, or avoid one another has been tested to the ultimate limits. The health crisis caused by the COVID-19 pandemic highlighted its role as a generator of social relationships, as well as the importance it has on the quality of everyday life in urban environments.

Thus, the most recent pandemic brought the topic of space-society relationships to the forefront, confirming that architectural planning

and spatial organization can have serious and large-scale social consequences. Issues of accessibility, availability, flexibility, and transformability of both public and private spaces had a high impact on both physical and mental health during the long months of restricted movement. While it made us revisit the question of how 'human' contemporary architecture and space is or how lost we have become trying to cater to the contemporary needs of everyday life, it also opened doors for new spatial concepts.

Attempting to assess the relationship between spaces and societies in an urban context during the extreme social situation of the COVID-19 pandemic, this study presents the case of the city of Sarajevo, a town that chronically suffers from an open public space and urban greenery shortage. Imposed changes in social conduct revealed and highlighted all the weaknesses and deficiencies of this progressively congested city. Subsequently, the work examines Sarajevo's existing inventory of public spaces in order to address the possibility of the city transitioning to a wider and more homogeneous supply of public space. Through cartographic representation, the research produces maps —an atlas of the main categories of public spaces — and makes an in-depth survey of the pattern of movement, use, and quality of selected open public areas using Artificial Intelligence (AI) and technology.

AI and technology themselves have become increasingly important in our lives and are changing the way we live. AI systems are designed to automate tasks that were once performed by humans and are becoming more sophisticated every day. AI is also changing the way we interact with technology, making it more intuitive and natural, and providing new and innovative ways to access and process information and services. During the COVID-19 pandemic, AI served as a tool for detecting human movement patterns, assisting in maintaining social distancing.

This provides an insight into the assessment of vulnerability and risk in Sarajevo in terms of the availability of public spaces and proposes specific spatial interventions that could provide a more adequate response for changing social behavior during COVID-19 pandemic or in the face of possible new health crises.