

## The Effects of City Fabric on Urban Strategies in Pandemic Time – Case Study Rome City (Italy)

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### 1 ABSTRACT

One of the most important aspects of studying the consequences of Covid-19 pandemic in cities is urban form and public spaces, particularly the central cores of cities because of their high population density which relates to their touristy, commercial and office functions. The aim is to review the strategies for restoring urban life and safe living by examining the relationship between dwellers and urban spaces. The city form which the movement is taken are going to be like a body which has no blood flow, as a result of those vital arteries will be disrupted and all the current economic, social, psychological and even political dimensions will be damaged. The methodology involves personal natural observation. In general, the proposed solutions in dealing with the destructive effects of pandemics classified into short-term and long-term approaches. Some strategies like Review of rigid and regulations in architectural design with the aim of mandatory natural ventilation could be related to future and Coloring of street urban walls based on high risk / low risk/ no entry areas for children and elderly people can help governments to face the corona pandemic and trying to take preventive measures, control and planning to return in normal life.

Keywords: Rome, pandemic, strategy, fabric, city

### 2 INTRODUCTION

#### 2.1 The relationship of the city fabric with people's lives

Cities, as the essence of human life, have a fundamental role in creating satisfaction, and in fact, they are the creator of human lifestyle and determiner of the quality of life. Therefore, the governments and planners emphasize the ability of cities to improve the human lifestyle at both international and national levels. The historical fabric of cities in terms of antiquity, physical heritage, and contexts appropriate to cultural performance is the most important physical-spatial context of cultural values. Cities, because of services and distribution of co-operations, are the economic, social, and political core in any country. Those that can be considered a suitable place for making income, work, and innovation.

Quality of urban life is one of the most important fields of urban studies in different countries with multiple social, environmental, and economic factors. Attention to this index in cities has increased due to its role as an effective tool in urban management and planning and in general, in determining the viability of cities. Paying attention to the quality of the artificial environment, in addition to encouraging people to participate in it, is effective in inducing a sense of satisfaction in people. Quality of life reflects the general characteristics of the environment in an area which can be used as a powerful tool for monitoring development planning of community. It is also defined as a measure of the extent of the spiritual, psychological, and material needs of society and the family. Environmental quality is a part of the quality of life and includes all the factors that form parts of human satisfaction with the involvement of the environment.

#### 2.2 Explain the general changes in cities during the COVID period and a brief definition of it

Many countries, regardless of geographical location and the degree of development, are facing the Corona pandemic and trying to take preventive measures, control, and planning to return to normal life. The effects of this attack are not the same in different countries, but the most obvious variance is in the type of government plans to regulate the situation, maintain public health, and how to support the interaction between people and authorities. In general, the pandemic has reduced the economic standards at all levels. Jobs such as restaurants and shops are generally in a slump and unable to pay taxes to the government. As a result, the administration has faced a decline in revenue. On the other hand, the economic support for the people has been another factor that pressured the government. These all have induced decreasing their abilities to implement urban development programs. Given the budget deficit in cities, a good solution is to pay attention to new investments. It may be possible to mobilize people, even remotely, by allocating funds

to innovate in more creative investments instead of fewer important programs. COVID-19 has disrupted the lives of us all, not just as a disease, but as a whole. This pandemic may no longer be a threat to human life in the next few months or years, but it provides an opportunity to think and actively work on the challenges facing preventive action in cities.

COVID-19 has disrupted all of our lives, not merely for a few months, but in a far more profound way. Nevertheless, the pandemic offers an opportunity to conceive of, and actively work towards, a better future for cities and their inhabitant.

### 3 ROME CITY AND THE FABRIC

Rome (or Roma in Italian), is the historic capital of the Rome Province, in the Lazio region, In the central-Western portion of Italy which is constructed and has grown on both sides of the Tiber river, which leads to the Tyrrhenian sea (Mediterranean). Rome is a compact city with a dense culture that can walk people through history by crossing its streets and alleys. Although Rome cannot be considered an industrial city, its economy is dependent on the tourism industry, which receives about 9 million international tourists each year. Despite its profitability, the need for the government, in the Corona pandemic which has led to the abolishment of touristic trips, to anticipate and control critical situations is more than before. The zone of the city is about 1285 km<sup>2</sup>, while the province is about 5352 km<sup>2</sup>.

Rome's 2021 population is now estimated at 4,278,350. About 9.5% of Rome's population is non-Italian. Half of which is the immigrant population of European origin, most notably Romanian, Ukrainian, Polish, and Albanese, comprising a total of 4.7% of the population. The other 4.8% is comprised of immigrants with non-European origins, particularly Filipinos, Bangladeshis, Peruvians, and Chinese. In 1950, the population of Rome was 1,884,065 which has grown by 21,294 since 2015, representing a 0.50% annual change. These population estimates and projections, come from the latest revision of the UN World Urbanization Prospects. These estimates represent the urban aggregation of Rome, which typically includes Rome's population in addition to adjacent suburban areas.



Fig. 1: Spanish Steps, before and after Covid-19, photos by authors.

Permeability, diversity, readability, flexibility, visual proportions, sensory richness, color belonging are the characteristics of urban tissue study. Under these conditions, cities are in a long-term effort to improve themselves, manage, and plan for an immediate response to the COVID-19 epidemic. These experiences discussed how cities respond to the epidemic and how they work to reduce lock-in measures and welcome long-term recovery. The historical context of the city of Rome also has valuable elements that are considered to be its ancient heritage and even culturally very important for the people of this country.

The outbreak of the COVID-19 pandemic has profoundly impacted Rome city and raised fundamental questions about urban development. Rome Urban fabric is the congestion, compaction, and integration of spaces and elements of a city that depends on the conditions of the natural environment, climate conditions and land conditions, and topographic characteristics of the region.

As previous pandemics changed urban approaches and planning, Covid-19 causes structural changes in the relationships, neighborhood, economy, health, and urban spaces to develop plans. One of the areas with the highest number of people with Covid-19 positive cases over the past year in this city is the Torre Angela area, located in southeastern Rome, on the edge of the second ring. This high number of positive cases may

be caused by some factors such as insufficient attention to health issues, and environmental pollution, such as waste and high population density, especially in the immigrant inhabitants with low financial capacity for health care.

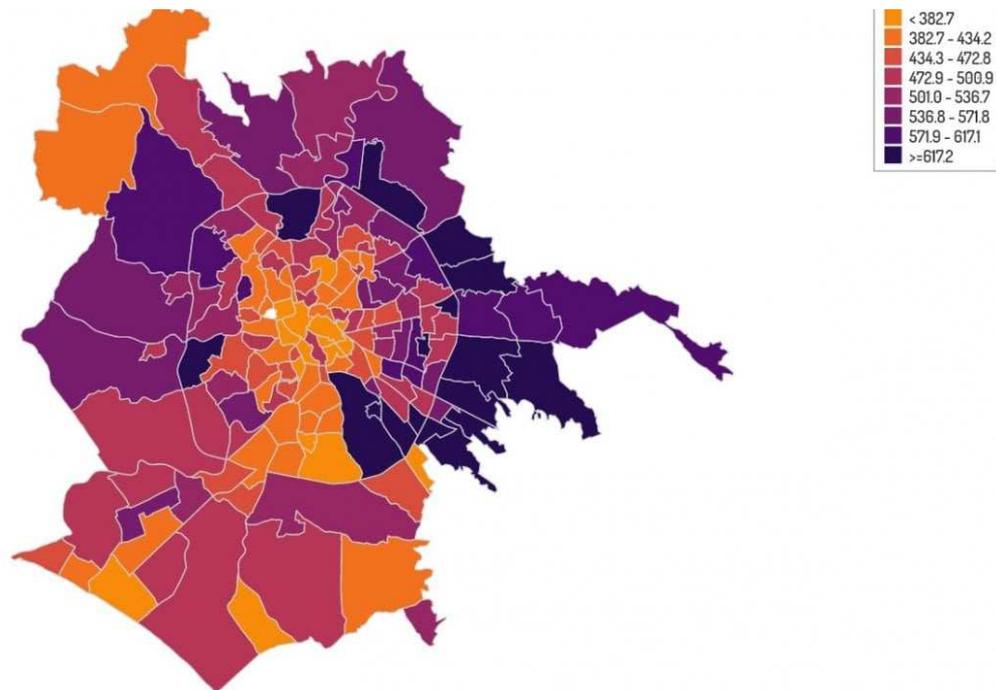


Fig. 2: The map of infection in the neighbourhoods.

#### 4 NOW AND FUTURE STRATEGIES

In the meantime, some cities are more reliant on the tourism industry, due to their geographical, cultural, or historical knowledge, which is significantly damaged by Covid-19, as such are usually expanded either on the coastal areas or in the central core of the city. Streets, large squares, and historical fabrics, which have played an effective role with their urban character in dynamiting and increasing the sense of satisfaction with the urban space, suddenly underwent unprecedented tranquility. Restaurants with street-sitting areas play a significant role in the perspective of the central streets and Roman neighborhoods. People could sit and enjoy the street view for a few minutes and it increases a dynamic sense regarding local places. Today, they have all closed the doors and turned off the lights.

now	future
Using of electronic scooters	Teleworking and virtual training
Smart free mask distribution stations in city	Review of rigid and regulations in architectural design with the aim of mandatory natural ventilation
Changing in mobility system in different scales, from the highest crowded to less crowded and suburb	Utopian city
"20 minutes of 'green time'"	The nexus between, infectious diseases and architectural green space
Equipped hospital units built in city area can change their use after a disease crisis	Design approaches for infection prevention and control

Table 1: now and future strategies according to Rome fabric

(1) Safe transportation for citizens in the current situation is considered one of the basic needs and a safe window to return people to the community in the urban structure. One of the most popular and recently accepted methods is to encourage people to use non-motorized vehicles such as electric scooters and bicycles on short distances, which can provide health to some extent.



Fig 3: scooter station in Rome, photos by authors

(2) The use of masks for citizens can be considered in terms of social effects, the effects of people's views on the use of face masks, the reason for not using masks, the most important and practical methods to solve the problems of utilizing face masks. The performance of research centers and Health centers indicated the factors and executive strategies for using the mask.



Fig 4: Mask station in Europe

(3) By zoning the city according to the amount of traffic, the number of reforms in central tourist or office areas that have peak hours of traffic, population, and working hours will find. The possibility of disease transmission and air pollution is higher. The urban planning model is also effective in providing conditions to reduce unnecessary traffic. Changing in mobility system to light non-motor vehicles in the scale of a neighborhood can be helpful to control the traffic. The possibility of pedestrian access to daily urban services reduces the need to use the means of transportation. As it is clear in the map below the central core of the city is the most traveled area, due to the presence of tourist places.

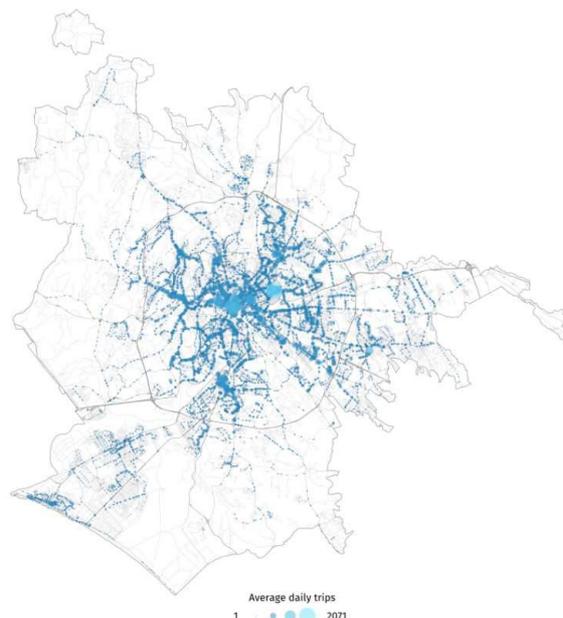


Fig 5: Average daily trips in Rome

(4) Urban green spaces will play a significant role in urban planning. In addition to the effect of lowering the temperature, allocating green paths or green spaces has many social, visual, and environmental benefits. Proper distribution of green space and health services in critical situations will lead to a reduction in

mortality. Suitable landscape criteria for a green space or neighborhood are the proper distribution of routes, access, granulation, suitable urban furniture, and the form of the landscape. The human-nature interaction examines the amount of need or communication needed for a healthy and sustainable urban environment in each district. In an area like Torre Angela with a high number of positive cases during the Covid-19, the Presence of adequate but unorganized green space is also a potential option. With reorganize and equip those green areas, the sense of satisfaction could be increase and motivate the dwellers to spend some minutes walking every day. It is possible to help raise the level of health by allocating urban furniture, defining the sidewalk, and establishing adequate health services along the way.



Fig 6: Organizing and completing green lines in high-risk area and Equipping residential centers and creating local parks

(5) The presence of three hospitals at a distance of fewer than eight kilometers (Tor Vergata, Casilina, and Rome American Hospitals) in the surrounding districts, indicates the presence of health centers close to there, but does not seems enough in an emergency. Some urban open spaces with the ability to become a temporary hospital will be one of the solutions. Uncovered parking lots near metro stations or in the open areas allow temporary locations to be built.

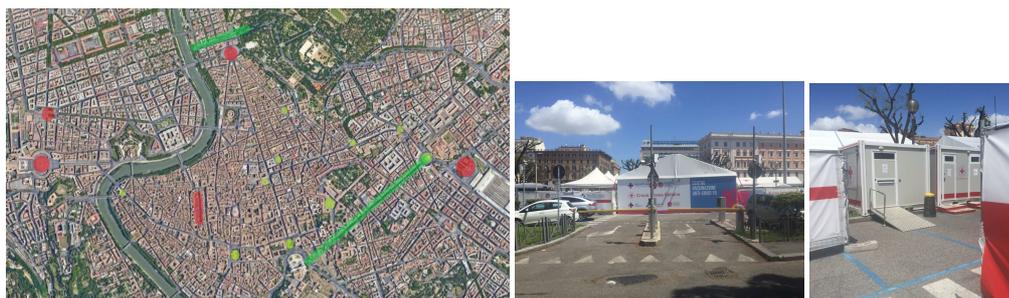


Fig 7: Locating and Establishment of mobile hospitals in the main squares of the city

The strict measures implemented in Lombardy and surrounding areas and shortly thereafter extended to the whole of Italy have made a measurable impact in reducing the progression of the Covid-19 epidemic. We estimated that the time lag between the start of the implementation of the restriction measures and the measurable reduction of the Covid-19 CI growth rate was approximately 7–10 days. In general, the proposed solutions in dealing with the destructive effects of pandemics classified into short-term and long-term approaches.

## 5 CONCLUSION

The concept of quality of life is considered to be a comprehensive reflection of the personal level of health, including all the factors that standard human life. It is largely influenced by the social, economic, and environmental quality of the city. On the other hand, it must be concluded that quality of life can be identified in a direct concept with the quality of the environment in which we live. Streets, large squares, and historic fabrics with their urban form create the content of a dynamic city. They provide a clear picture of the urban space, a city that today experiences unprecedented tranquility. Impressive street restaurants, public hangouts, urban green areas were considered a sense of presence in the community, achieved by increasing safety and prevention for future conditions. In general, in times of natural disasters such as floods, earthquakes, and infectious diseases, all cities face serious challenges and suffer serious human, economic, industrial, and infrastructural shocks but resilient cities can overcome these crises and survive. They pay the price for their weaknesses by investing more in the goals of sustainable development and urban sprawl and move through the crisis to become more resilient, healthier, and more successful cities.

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