

The Use of Spatial Data to Identify Land Reserves for Minimising the Negative Effects of COVID-19 Pandemic on the Example of Selected Districts of Warsaw

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SUMMARY

One of the most significant contemporary threats to the population is the pandemic of the coronavirus COVID-19 covering the entire world. The latest data shows that due to the pandemic, several hundred million people have fallen ill since the beginning of 2020. Mostly urban areas with high-density housing and limited access to services are affected. There is often a lack of time, resources, and space to develop for primary services available in the immediate vicinity of the place of residence. In the face of progressing urbanization and expanding pandemic, it is necessary to rationally manage urban space, ensuring the use of unused, post-industrial areas on the one hand, and minimizing the spread of the virus and, consequently, improving the health of residents on the other. One solution that has a beneficial effect in cities is the effective management of empty, undeveloped areas in the urban tissue.

This paper aims to show that commonly available spatial data can be successfully used to select investment locations related to the mitigation of the negative effects of the pandemic. Two districts of Warsaw were chosen for the study - one typically urbanized - Mokotów, the other with large undeveloped areas for construction - Białołęka. The study analyzed the land reserves of these districts.

Spatial analyses of the data made it possible to identify optimal locations which constitute land reserves that can be used for essential services. Based on the analysis results, planners can effectively create a set of recommendations for local governments. Thanks to these recommendations, municipalities will be able to manage their land reserves and eventually adapt them for the purposes mentioned above.

As a result, it is expected that effective management of land reserves using publicly available

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spatial data will clearly improve preventive actions in case of an emergency such as a pandemic. In addition, the proposed design solutions are also universal, as based on the data on available field reserves and their status, management in emergencies will be possible such as a pandemic.

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