

Green Design Study of Prefabricated Community Control Measures in Response to Public Health Emergencies

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Abstract : During the prevention and control of the COVID-19 pandemic, all communities in China were gated and under strict management, which was highly effective in preventing the spread of the epidemic from spreading. Based on the TRIZ theory, this paper intends to propose green design strategies of community control in response to public health emergencies and to optimize community control facilities according to the principle of minimum transformation. Through the questionnaire method, this paper investigates and summarizes the situation and problems of community control during the COVID-19 pandemic. Based on these problems, the TRIZ theory is introduced to figure out the problems and associates them with prefabricated facilities. Afterward, the innovation points and solutions of prefabricated community control measures are proposed by using the contradiction matrix. This paper summarizes the current situation of community control under public health emergencies and concludes the problems such as simple forms of temporary roadblocks, sudden increase of community traffic pressure, and difficulties to access public spaces. The importance of entrance and exit control in community control is emphasized. Therefore, the community control measures are supposed to focus on traffic control, and the external access control measures, including motor vehicles, non-motor vehicles, residents and non-residents access control, and internal public space access control measures, including public space control shared with the society or adjacent communities, are proposed in order to make the community keep the open characteristics and have the flexibility to deal with sudden public health emergencies in the future.

Keywords : green design, community control, prefabricated structure, public health emergency

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