Politecnico di Torino

Honors Thesis

Master of Science in Architecture Construction City

Abstract

CORVI Plus

Prefabrication as a highly efficient strategy for social housing retrofit in Chile

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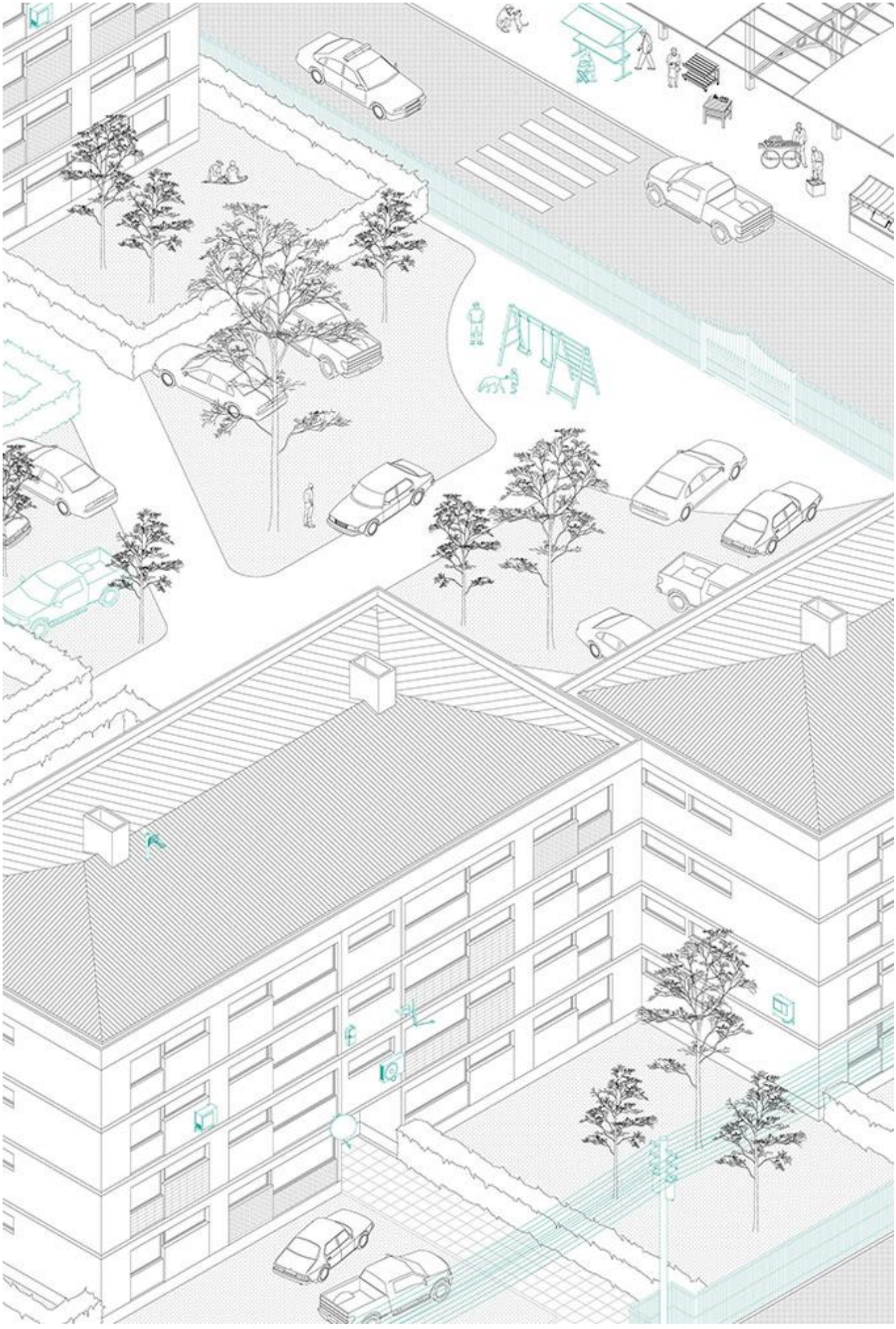
February 2022

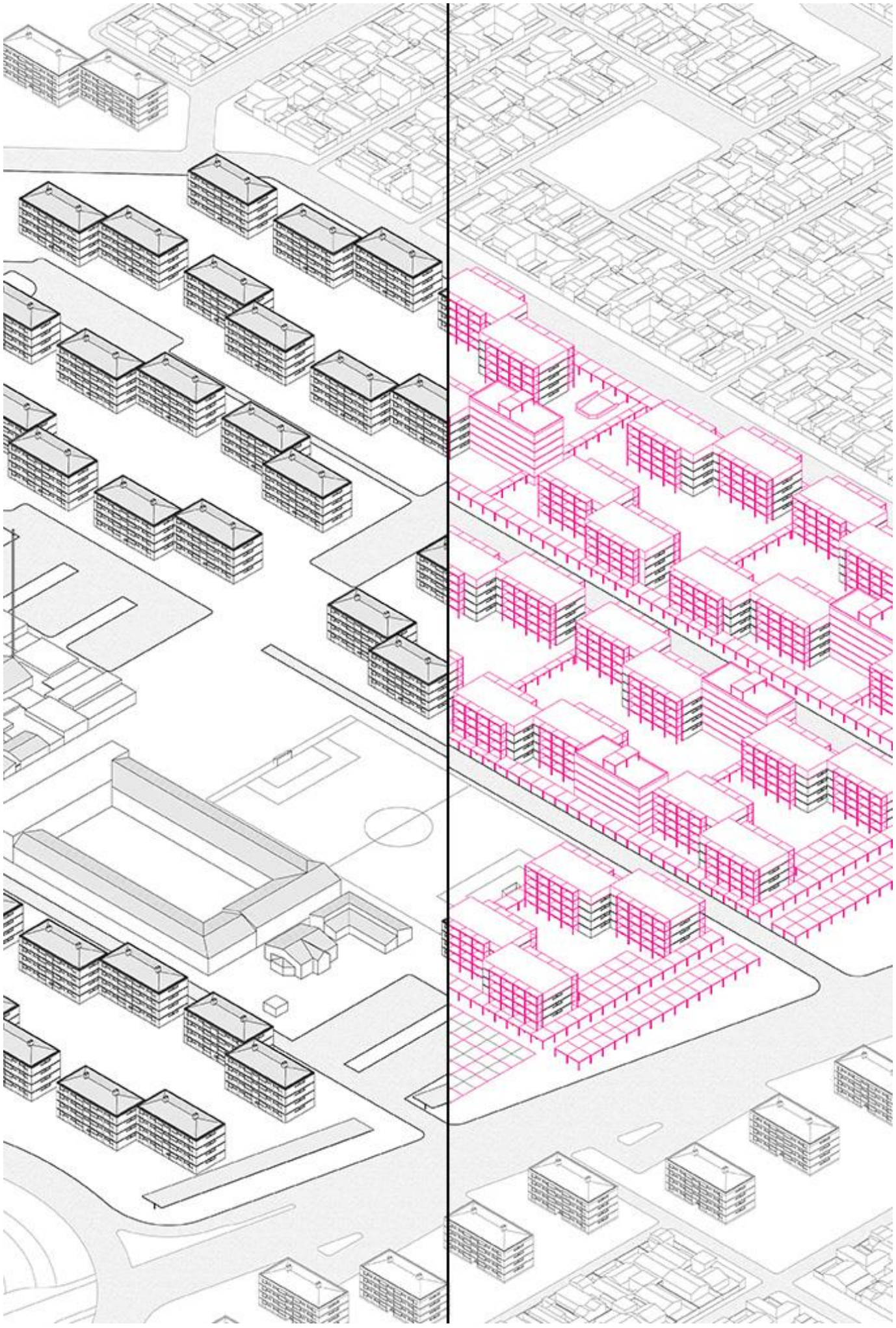
Historically, prefabricated construction has been linked to public policies aimed at reducing the quantitative housing deficit, i.e. the difference between the number of households and the availability of adequate housing units. On the other hand, the improvement of existing buildings represents an efficient and sustainable solution to deal with the problem of the qualitative deficit, i.e. the inadequate conditions of a part of the housing stock, allowing an improvement in the quality of life of the inhabitants while making the most of available resources.

This work explores the potential of prefabrication applied to the retrofit of multi-storey public housing through the study of possible transformations of the CORVI 1010 and 1020 housing prototypes, which represent the most successful example of industrialization of construction in Chile.

Built between 1966 and 1972 in more than 2000 units and distributed throughout the entire country, the CORVI blocks constitute an extraordinary heritage and their rehabilitation (made necessary by the functional obsolescence of the systems) is a unique opportunity to promote the densification and improvement of urban space. Since these buildings can boast of having a structure of exceptional quality, which is not something usual for public housing in the Andean country, this study aims to develop a design proposal applied to a real case study based on the use of a prefabricated system for the improvement and extension of existing units, with an eye to efficiency, execution speed and low impact. It also provides the theoretical tools necessary to fully understand the subject, through an in-depth study of prefabrication and its implications.

The thesis is part of the research project PLUS Chile, by the School of Architecture of the Pontificia Universidad Católica de Chile in collaboration with French architect Frédéric Druot, who together with Anne Lacaton and Jean-Philippe Vassal (2021 Pritzker Architecture Prize Laureates) worked on the PLUS design philosophy, based on the principle of "never demolish". It was written in Spanish during a Double Degree exchange program at Pontificia Universidad Católica de Chile between 2019 and 2020, and subsequently translated into Italian and expanded.





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