

Ph.D. THESIS SUMMARY

Architecture of public elementary schools implemented in the years 2002-2013 located in dense urban fabric of New York

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The subject of the undertaken research is the architecture of primary school buildings, located in the environment of intense urban development of New York. The focus is on the already existing dense urban tissue, which, as a result of complex processes, undergoes transformations over time. The implementation of construction projects in such a context requires, on the one hand, the necessary adaptation to new needs, while on the other hand, due to the existing limitations, often leads to solutions that are more or less deviating from universal models.

The relevance of this issue is demonstrated by the construction of a large number of education facilities in recent years. The adopted delimitation of the time interval, covering the years 2002-2013, coincides to a large extent with the period of high investment intensity concerning public schools in New York.

A detailed study covered 50 public primary schools - selected as representative - located within the agglomeration of New York in all its five districts. The examples selected for the research are presented in the form of catalog sheets.

Narrowing the scope of the research to primary level educational institutions resulted from the observed accumulation of significant location factors affecting the proper functioning of the school at this level. One of the most important of these is the required proximity of the school location and the children's place of residence.

The main part of the research material was collected by the author during his work in New York. Analyzed objects were selected on the basis of publicly available data from entities responsible for the construction and maintenance of educational facilities.

The main purpose of the study is to identify, characterize and classify solutions within a representative set of considered public schools and to carry out analyses of the relationship between school architecture and specific determinants of intense urban structures, while taking into account systemic, stimulating and regulatory design as well as implementation constraints. Taking this approach to the research problem, the focus was on exploring the resulting set of buildings mainly in terms of relationships with the surrounding urban tissue.

In order to establish a benchmark for the comparative analysis, an attempt was made to define an exemplary primary school model.

It was assumed that facilities with the same educational function should have a set of specified common basic requirements.

The main research trends include issues of: functional and spatial conditions of the location, external and internal architectural form, functional and technological solutions.

The analysis of the collected examples showed several significant differences between them, resulting, inter alia, from the degree of intensity of the surrounding buildings, which has a direct impact on the adopted spatial solutions. The analyses made allowed to

determine characteristic elements shared by the entire set of venues as well as certain individual features within particular groups and categories.

The study established that the dynamic growth of school developments in New York, initiated in 2002, is unique, and is the result of an innovative operation formula of the municipal agency called School Construction Authority (SCA). The source of high-quality and quantitative effectiveness of this entity's activities lies in the decision to provide it with very broad proxies covering all phases of the development process.

The results of the study, included in the summary, prove the universality of the solutions adopted in New York and their usefulness for solving similar problems in other cities.

The analysis of the implementation process has shown that the standardization of individual solutions plays an important role. It allows reducing design and execution errors, greatly shortens the time needed to compile documentation as well as facilitates communication between participants of the investment process.

It was found that buildings of the same function obtain their specific character as a result of various design assumptions depending on changing urban conditions, the choice of used materials, the designers' creativity, the investor's requirements, etc. The search for these individual solutions does not have to exclude the use of proven standards or patterns.

Seeking the confirmation of the thesis that the current implementation effects of the school building program in New York, both due to the scale of the project, as well as relatively short time of their creation constitute a unique and precursory achievement in the world, contacts have been made with representatives of the authorities of other urban centers of comparable size. The information obtained confirmed the truth of the thesis.