

Zeitschrift: IABSE reports = Rapports AIPC = IVBH Berichte
Band: 77 (1998)

Artikel: Strategic decisions about rehabilitation of buildings
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DOI: <https://doi.org/10.5169/seals-58212>

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Strategic Decisions about Rehabilitation of Buildings

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Summary

An important phase in the rehabilitation programme for the retrofitting and upgrading of the existing building stock is making decisions on the need to preserve or demolish the buildings. The time is an important factor in evaluating the future structural stability of the building and making strategic decision on repair and strengthening. Two-basic stages that must be taken in order to decide on the structure which is to be rehabilitated are described.

Keywords : rehabilitation, decision, building stock, time

1. Introduction

Many countries have adopted programmes for the retrofitting and upgrading of the existing building stock, which provide procedures for the systematic survey and rehabilitation of old buildings, and establish a priority system for a building review and determine whether rehabilitation works are needed. These programmes are very important because many old buildings may be vulnerable to damage due to a variety of conditions.

Time is an important factor in evaluating the future structural stability of the building and making strategic decisions on repairing and strengthening in accordance with the trend in standards of rehabilitation. Therefore any of the decisions must be established in accordance with the time related to the future service life and the vulnerable degrees of the buildings for an intervention from the urgency view point.

In many cases, old types of construction are just not covered in a current code requirements.

Upgrading an old building to comply with current standards for new constructions is generally extremely difficult and costs as a full upgrading often requires extensive demolition and reconstruction and its economic impact can result in the abandonment of a rehabilitation programme.

2. Informational Aspects

With a view of creating a comprehensive image about the existing building stock, from the point of view of structural safety, it is first of all necessary to take into account the following aspects:

- the different categories of buildings, from the point of view of functional destination and beneficiaries
- the verification of structural adequacy
- the general development strategy of the existing building stock as part of investments and systematisation actions.

The putting into safety of the existing building stock includes two main aspects: the evaluating of extend situation and the organising of the necessary adequate actions.

The gathering of the main information about the existing building stock includes three main aspects: the inventory, evaluation and classification of buildings.

The purpose of the inventory is to identify and to make a preliminary assessment of the present condition of the existing building stock through picking up the necessary dates for the identification of the buildings (situation, property, functional destination, age, dimensions) and the framing in some categories.

The evaluation represents an exact technical action which must conclude with the engineering information having as a result of the possible as performance of the buildings exposed to a variety of possible loading and environment aggressive conditions.

The classification represents the final framing of the existing building stock in some categories in accordance with some criteria (future service life, vulnerable degrees intervention from the urgent view point).

The evaluation problem of the present condition of the existing building stock, the establishment of the adequacy of the structures, the development of improved methods and technologies about the resistance capacity and the safety level, constituted preoccupations for a large number of countries in the last decades.

3. Decisional Aspects

An important phase in the rehabilitation of building stock is making decision on repair and strengthening.

Any of the decisions must be established in accordance with the time related to the future service life and the vulnerable degrees of the building for the intervention from the urgency view point.

For the putting on safety the existing building stock it is necessary to grind the decisions and adequate emergency measures with a view to the upgrading of safety level or the extensive demolition.