

# EXECUTIVE SUMMARY

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Those involved in the complex process of preparing the *NEHRP Guidelines for the Seismic Rehabilitation of Buildings* and its *Commentary* (referred to in this publication as the *Guidelines* or the *Guidelines* documents) recognized from the outset the importance of helping users deal with the social, economic, and public policy complexities of rehabilitation. Indeed, the Executive Director of the Building Seismic Safety Council, the managing organization for this project, noted that seismic rehabilitation decision-makers "possibly are not technically oriented but will have to say yea or nay on incorporating information from the *Guidelines* into local practices, be they business or regulatory."

This *Societal Issues* volume has been prepared to acquaint potential users of the *Guidelines* documents with typical problems unrelated to design and construction processes that might arise when planning or engaging in seismic rehabilitation projects and programs. Further, it is intended to alert readers to the difficulties inherent in implementing seismic rehabilitation recommendations.

The goals of seismic rehabilitation are important. They include, above all, protecting life and property in future earthquakes as well as protecting investments, lengthening a building's usable life, reducing demands on post-earthquake search and rescue resources, protecting historic structures, shortening business interruption time, maintaining inventories and customers, and reducing relocation needs/demands. Other worthy goals include limiting the need for post-earthquake emergency shelter and temporary housing, minimizing the release of hazardous substances, conserving natural resources, avoiding the costly processes of settling insurance claims and applying for post-disaster aid, protecting savings and contingency funds, reducing the amount of debris to be removed, and facilitating an earthquake-stricken community's return to normal patterns of activity.

This publication is structured to emphasize two basic user-oriented concepts. The first is a four-step iterative process that outlines a set of decision points so the user can determine whether seismic rehabilitation

efforts are needed and, if so, their potential scope. The second offers a simple "escalation ladder" to help users understand the degree of conflict inherent in and the implications of choosing what, if any, seismic rehabilitation strategies to follow.

The four-step decision process includes:

- Defining the problem by conducting preliminary and, if needed, detailed analyses of the risk;
- Developing and refining the alternatives for addressing seismic rehabilitation;
- Adopting an approach and an implementation strategy; and
- Securing the needed resources and implementing the seismic rehabilitation measures.

The strategies available to those who become involved with seismic rehabilitation will reflect the mixture of private efforts and governing public policies existing in the specific context (e.g., a city). Attrition is one choice and has the least conflict. A second choice is purely voluntary rehabilitation, but even this approach may engender some conflict as government becomes involved in the permitting process. The third choice involves a more proactive role of government and, therefore, a potentially higher level of conflict; it entails informally encouraging owners to rehabilitate their buildings by establishing some standards and triggers and then negotiating the scope of work on a case-by-case basis as a condition of being granted the necessary permits. The fourth and final strategic choice and the one with the highest degree of conflict centers on government mandating of seismic rehabilitation—i.e., the establishment of seismic rehabilitation ordinances defining which types or uses of buildings require rehabilitation, the applicable standards, reporting and inspection requirements, time frames for compliance, and penalties for not doing so.

In recognition of the fact that each building is unique, this publication also examines the wide spectrum of socioeconomic issues that may face those involved in seismic rehabilitation efforts. Each is

discussed in terms of the nature of the problem, typical issues, and some example solutions. Considered are problems related to historic properties, the distribution of economic impacts, occupant dislocation, business interruption, effects on the housing stock, rehabilitation triggers, financing rehabilitation, legal concerns, and selection of rehabilitation targets.

Inasmuch as the intended users of the *Guidelines* documents and this publication are most likely to be local building and planning officials, private owners and consulting design professionals, three illustrative "application scenarios" are presented. Each scenario

presents a situation (for a private company facilities manager; a local government city manager and building official; and a consulting engineer) and a list of considerations that would commonly have to be addressed.

The economic, social, and political complexities and the varying seismic environments of the United States are such that seismic rehabilitation programs will have to be tailored to thousands of individual situations. This publication therefore provides an extensive reference section to help the reader locate additional applicable materials.