IMPROVING THE SEISMIC PERFORMANCE OF EXISTING BUILDINGS AND OTHER STRUCTURES

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Foreword

Buildings are the backbone of the world's infrastructure - they house our families and businesses, provide emergency shelter, provide places for education, enable our industries, and bring about an improved standard of living for people throughout the world. Without this backbone, civilization doesn't exist. Each year buildings and other structures are designed and built with a continually improving understanding of their performance during earthquakes, yet the vast majority of structures were built with substantially less understanding of seismic actions than we currently possess.

The challenges to improving the seismic performance of existing buildings and other structures are as broad and varied as the individual structures themselves. How should they be evaluated and strengthened? What plans exist? What materials were used? What assumptions were made? Were they built as designed, and if not, what modifications were made but possibly (probably) not documented?

To begin addressing these and other critical issues, the Applied Technology Council and the Structural Engineering Institute of ASCE organized this conference held on December 9-11, 2009 in San Francisco, California. This inaugural conference is the first conference dedicated solely to improving the seismic performance of existing buildings and other structures. The program was planned to provide a forum for the presentation and exchange of new information on the seismic evaluation and seismic rehabilitation of existing buildings, including case studies, new discoveries, innovative use of new technologies and materials, implementation issues, needed improvements to existing standards and methods, and socio-economic issues.

The goal of the Conference, and hence these proceedings, was to provide an invaluable opportunity to advance the profession's understanding of the tools, techniques and innovations available to assist in meeting the challenges of seismic evaluation and rehabilitation. For those new to the profession, these proceedings are an opportunity to get up to speed on core issues surrounding seismic rehabilitation.

Thank you to everyone who participated in making the Conference a tremendous success whether it was attending, presenting, or helping to organize the event.

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