

16076 - The cost of seismic retrofits: Case studies from Auckland Council

Events associated with the 2010 Darfield and the 2011 Christchurch earthquakes have illustrated the need to attend to the nation's earthquakeprone (EQP) building stock. Seismic retrofit would ideally be implemented as extensively as possible, but in a world of limited resources, the cost of such activity must be considered. A sound seismic retrofit strategy for dealing with EQP buildings may not be established unless costs associated with alternative options are carefully determined and integrated into a supporting decisionmaking tool. Currently, there is a lack of a consistent approach to estimate the cost associated with earthquake strengthening to different levels of performance and in New Zealand currently this estimation is mainly reliant on indicative cost figures proposed by a small number of engineering experts, rather than a systematic framework.

The aim of this proposal is to address the first step that needs to be undertaken for developing consistent cost models, which is the collecting and reporting of data on seismic upgrading cost and its governing parameters for buildings that have already been either seismically strengthened or tendered out with initial reliable cost estimates. This exercise will be done by studying case study buildings owned by Auckland Council that were previously earthquake prone and that have been or are currently being seismically retrofitted.