Earthquake house
Key Topics:

- earthquake [2]
- engineering [3]
- mitigation [4]

Cost-effective mitigation strategy for building related earthquake risk [5]
Research was undertaken to understand the seismic vulnerabilities of existing unreinforced masonry and limited ductile reinforced concrete buildings and methods to address them seismic retrofit; assess the risk of building stock through the development of an economic loss model with trial evaluation; and advance an end-use focused research utilisation project in the area of community risk reduction – York, Western Australia.

Project: detail Notabs

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Description

This research developed an evidence base to inform decision making on the mitigation of the seismic risk posed by the most vulnerable Australian buildings subject to earthquakes. Without this evidence base, it is impossible to make cost-effective and economically justifiable decisions by building owners and government officials on all matters concerning seismic strengthening of existing and design of new buildings. While the focus of this project was on buildings, many of the project outputs are also relevant for other Australian infrastructure such as bridges, roads and ports, while at the same time complementing other CRC project proposals for severe wind and flood.

In order to achieve the overall project aim, work was undertaken on three complementary fronts to:

1. understand the seismic vulnerabilities of existing unreinforced masonry (URM) and limited ductile reinforced concrete (LDRC) buildings and methods to address them through seismic retrofit
2. risk assessment of the building stock through development of an economic loss model with trial evaluations for a regional town (York, WA) and a metropolitan area (Melbourne)
3. advance an end-user focused research utilisation project in the area of community risk reduction. This is done through an Earthquake Mitigation Case Study for the historic town of York in Western Australia.

Read the final report here. [38]

Related News

25 MAY 2021

New online - May 2021
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[39]

22 APR 2021

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MULTI-HAZARD, RESILIENCE

[40]

15 DEC 2020

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COMMUNICATION, EMERGENCY MANAGEMENT

[41]

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COMMUNICATION, EMERGENCY MANAGEMENT

[42]

20 OCT 2020

New online - October 2020

COMMUNICATION, EMERGENCY MANAGEMENT

[43]

14 AUG 2020

New online - August 2020

COMMUNICATION, LOCAL KNOWLEDGE

[44]

25 JUN 2020

New online - June 2020

COMMUNICATION, EMERGENCY MANAGEMENT

[45]

21 MAY 2020

New online - May 2020

COMMUNICATION, EMERGENCY MANAGEMENT

[46]

21 APR 2020

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COMMUNICATION, EMERGENCY MANAGEMENT

[47]

19 MAR 2020

New online - March 2020

COMMUNICATION, EMERGENCY MANAGEMENT

[48]

19 FEB 2020

New online - February 2020

COMMUNICATION, EMERGENCY MANAGEMENT

[49]

18 NOV 2019

New online - November 2019

EMERGENCY MANAGEMENT, ENGINEERING

[50]

09 OCT 2019

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[51]

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[52]

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COINCIDENT EVENTS, FORECASTING

[53]

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[55]

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[56]

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[59]

18 APR 2018

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EMERGENCY MANAGEMENT, MULTI-HAZARD

[60]

28 FEB 2018

Survey to protect historic WA town from earthquake

EARTHQUAKE, EMERGENCY MANAGEMENT

[61]

17 NOV 2017

New online - November 2017

[62]

13 OCT 2016

New online - October 2016

[63]

23 MAY 2016

New online - May 2016

[64]

17 MAY 2016

Videos highlight research benefits

COASTAL, INDIGENOUS COMMUNITIES

[65]

15 MAR 2016

New online - March 2016

[66]

25 JAN 2016

Earthquake and wind testing in Adelaide

CYCLONE, EARTHQUAKE

[67]

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Year	Type	Citation
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2021	Journal Article	Mehdipanah, A. [76], Lumantarna, E. [12] & Lam, N. [24] **Shear Wall and Frame Dual Systems Featuring Discontinuous Load Paths in Frame Elements in Low-to-Moderate Seismic Regions** [77]
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2020	Journal Article	Tang, Y. [110], Lam, N. [24], Tsang, H. - H. [16] & Lumantarna, E. [12] **An Adaptive Ground Motion Prediction Equation for Use in Low-to-Moderate Seismicity Regions** [111]. *Journal of Earthqua*
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Year	Type	Citation
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2014	Journal Article	Wibowo, A. [485], Wilson, J. [19], Lam, N. [24] & Gad, E. F. [10] **Drift performance of lightly reinforced concrete columns** [520]. *Engineering Structures* **59,** 522-535 (2014). DOI [521] Google Schola
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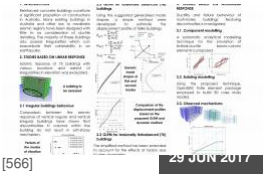

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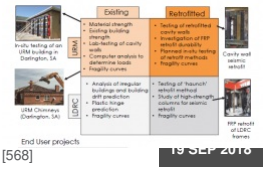

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