

## ***Interactive comment on “Mapping Accessibility for Earthquake Hazard Response in the Historic Urban Center of Bucharest” by Cristina Merciu et al.***

**C. Merciu**

cristina.merciu@geo.unibuc.ro

Received and published: 5 May 2018

### **1. Referee suggestion 1:**

Compared to the previous version, the references improved. However, technical correction to Crowley, H., Colombi, M., Pinho, R., Meroni, F., and Cassera, A.: Application of a prioritisation scheme for seismic intervention in school buildings in Italy, in: 14th World Conf. Earthq. Eng., Beijing, China. Although the WCEE papers are archived in the web, there is a better referenceable paper by the authors in Earthquake Spectra (Damian N. Grant, Julian J. Bommer, Rui Pinho, G. Michele Calvi, Agostino Goretti, and Fabrizio Meroni (2007) A Prioritization Scheme for Seismic Intervention in School

C1

Buildings in Italy. Earthquake Spectra: May 2007, Vol. 23, No. 2, pp. 291-314.)

Authors' Answer: We agree with your recommendation. The article published in Earthquake Spectra is a more accessible reference, and the content is the same.

We have replaced Crowley et al., 2008, with Grant et al., 2007 in the main text, at the line 53.

The same change has been made in the REFERENCE list as follows:

Crowley, H., Colombi, M., Pinho, R., Meroni, F., and Cassera, A.: Application of a prioritisation scheme for seismic intervention in school buildings in Italy, in: 14th World Conf. Earthq. Eng., Beijing, China. <ftp://ftp.ecn.purdue.edu/spujol/Andres/files/09-01-0097.PDF>, Oct. 12-17, 2008,

replaced by

Grant, D.N., Bommer, J.J., Pinho, R., Michele Calvi, G., Goretti, A., and Meroni, F. (2007) A Prioritization Scheme for Seismic Intervention in School Buildings in Italy. Earthq. Spectra, 23, 291-314, 2007. <https://doi.org/10.1193/1.2722784>

### **2. Referee suggestion 2:**

The Frank Fiedrich article I suggested within the same collaboration is for example <http://ieeexplore.ieee.org/abstract/document/4117644/?reload=true> or <https://www.informs-sim.org/wsc06papers/059.pdf> which included simulation of post-earthquake fire for Magheru boulevard in Bucharest.

Authors' Answer: Thank you for this recommendation! Inclusion of the paper by Frank in our references provided us with the possibility of adding some further relevant information.

The authors have added new material to the text as specified below:

a) At line 60, we have inserted: As Fiedrich (2007) suggests the responses made to

C2

a disaster during the first three days are fundamental. After that, the main goals are invariably rescuing trapped victims, and treating of the injured persons, though fire fighting may also continue in some cases.

b) At line 289, we have inserted: There are some studies of fire fighting simulations outside the historical center of Bucharest, in the Magheru Blvd (for example), which reflect the importance ascribed to this phenomenon during an earthquake event (Fiedrich, 2007).

The following REFERENCE has been added:

Fiedrich, F.: An HLA-Based Multiagent System for Optimized Resource Allocation After Strong Earthquakes, Simulation Conference, 3-6 Dec., WSC 06, Proc. Winter, Monterrey, CA, USA, 2006, added to IEEE Xplore: 05 March 2007, DOI: 10.1109/WSC.2006.323120

3. Referee suggestion 3:

More recent writings addressing urban infrastructure such as roads by the author is Urban Disaster Resilience and Security. Addressing Risks in Societies. Editors Alexander Fekete Frank Fiedrich (Springer).

Authors' Answer: Your suggestion has added to our knowledge of this topic, since this publication provides additional confirmation of the importance of accessibility in the event of an earthquake. We have therefore made the following additions to the text:

At line 236, we have inserted: a) In recent years, scientific approaches to risk reduction in natural disasters, such as earthquakes have used resilience as an important concept which could provide new theoretical insights and practical measures for the enhancement of civil protection (Fekete and Fiedrich, 2018). Scientists, working with decision makers and communities, can use this concept profitably (Anhorn, 2018). Furthermore, Fekete and Fiedrich's work has relevance to a range of issues related to accessibility levels in disaster affected areas.

C3

The following REFERENCES have been added:

Anhorn, J.: Nepal and the "Urban Resilience Utopia", in Editors: Fekete A., Fiedrich F (eds.), 2018, Urban Disaster Resilience and Security, pp. 13-26. The Urban Book Series, Springer, 2018. <https://doi.org/10.1007/978-3-319-68606-6>.

Fekete, A. and Fiedrich, F.: Introduction to "Urban Disaster Resilience and Security – Addressing Risks in Societies", in Editors: Fekete A., Fiedrich F (eds.), 2018, Urban Disaster Resilience and Security, pp.1-12. The Urban Book Series, Springer, 2018. <https://doi.org/10.1007/978-3-319-68606-6>.

At line 32, we have inserted: b) In any disaster situation, one of the most important factors across all the disaster phases is public-private emergency cooperation. By developing a model to harmonise this joint cooperation, Wiens et al. (2018) identify efficient ways to improve the logistics operations during crisis management.

to the following REFERENCE has been added:

Wiens, M., Schatter, F., Zobel C.W. and Schultmann, F. in Editors: Fekete A., Fiedrich F (eds.), 2018, Urban Disaster Resilience and Security, pp.145-168. The Urban Book Series, Springer, 2018. <https://doi.org/10.1007/978-3-319-68606-6>.

4. Referee suggestion 4: Referee 1 also recommends another recent publication: ..... Einführung in den Bevölkerungsschutz. Autoren: Fiedrich, Frank, Kudlacek, Dominic (Springer)".

Authors' Answer:

This potentially interesting book is not yet available. However, we look forward to using its ideas in our future endeavours. The authors again thank Referee 1 for his/her close reading of our work and for his/her useful suggestions.

Please also note the supplement to this comment:

<https://www.nat-hazards-earth-syst-sci-discuss.net/nhess-2018-41/nhess-2018-41>

C4

