

Interactive comment on “The street, an area exposed to earthquakes (the Lorca case, Spain 2011)” by M. B. Rojo et al.

Anonymous Referee #1

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This work concerns the exposure of people during the first aftermath phases (in particular, during the evacuation) in urban scenarios, in case of earthquake damages presence. The paper tries to define a methodological procedure to understand the exposure of people during the time, by including aspects related to their position in the urban fabric elements (e.g.: inside buildings, along streets, in open areas, out of the city). Then, the method is applied to a case study. Limits of the works are clearly addressed.

The man-environment interference in earthquakes is a really important issue for inhabitants' safety and the exposure of people during time is a major related issue. Nevertheless, from a global point of view, this work does not take into account the recent development in this research field, especially in the state of art. Furthermore, only some behavioral aspects are considered and recent works are not included in the discussion about human choices in evacuations and their relationship with the damaged

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scenario (debris).

From the structure point of view, some methods are offered in the results phase and not in the methodological one. This element does not help the reader to understand methodological aspects in a clear way. Furthermore, an extended review of English sentences (mainly, structure) should be carried out in order to avoid readers' misunderstanding.

Some major punctual notes should be included:

TITLE & ABSTRACT 1-the title should be more effective in relation to the investigated matter: for instance, it could include a subtitle about "proposal of a methodology for assessing aftermath and evacuation mobility of citizens". 2-Some additional notes about main results should be proposed within the abstract.

STATE OF ART -sec. 2 3-some additional references should be included, especially while dealing with damages estimations and evacuation interference; in particular: - some of the proposed references are running out of time or could be incomplete. - some additional references could be considered about pedestrians' choices in relation to the familiarity with architectural spaces 4-Protection and evacuation phases should be clearly defined, for example in reference to previous works. The evacuation phase should be defined as the phase in which pedestrians can reach a safe area (including areas where rescuers are placed). An improved definition of a similar issue should be clearly stated by also including references as in the previous comment.

METHODS - sec.3 5-Additional minimal information about interviews should be carried out. E.g.: Were the interviews carried out by involving the same population sample? Which are criteria for defining these population sample? Are these interviews defined according to previous rules of literature works? An example of the questionnaire should be proposed. Could you give a precise definition of "outside"? Countryside? External points in respect to built urban areas?

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RESULTS -sec. 4 6-Some relevant parts of results should be moved in methods because of their structure (e.g.: the ruins estimation methods in Section 4.1.1; position definition at 4.2.1). -sec.4.1. 7-It could be really interesting to share the photographs and videotapes with the rest of researchers' community! I encourage the authors to upload all the possible sources on a website repository! Same issues were engaged by other works on evacuations (e.g.: Yang 2011, Yang 2012, Bernardini 2016) 8-Which are the damage mechanisms for these buildings? Do they suffer different collapse mode? The collapse mode/damage mechanism influence the generated ruins area according to previous studies. 9-Some statements are really pleonastic within the result discussion! Please avoid these rhetoric questions. 10-In Sec. 4.1.2, some evacuation and mobility issues seem to be essentially connected with the areas where people moved. The number of travels could be a secondary element in these valuations. For these reasons, although the sample is quite small, a map overview could be included.

-sec.4.2. 11-some behaviours that are noticed by your study were also included by previous literature works (e.g.:fear of buildings; attachment to things behaviours). 12-You write: "Their exposure only decreases when 572 they are outside the city." This statement could be discussed in a more appropriate way. For example, elements relating to rescuers are not considered. When people is outside the city, they could be not safe because of the low possibility to be gained by first aids. This is just an example.

LIMITS-sec.5 13-A compared discussion of limits and future activities connected to other significant works (e.g.: Prati 2012, Mora et al 2015, Bernardini 2016) should be included, because of the really close matter of these works.

Finally, more details are offered by resources in the supplementary pdf file.

Please also note the supplement to this comment:

<http://www.nat-hazards-earth-syst-sci-discuss.net/nhess-2016-115/nhess-2016-115-RC1-supplement.pdf>

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Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., doi:10.5194/nhess-2016-115, 2016.

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