Interactive comment on "Urban surface water flood modelling – a comprehensive review of current models and future challenges" *by* Kaihua Guo et al.

Anonymous Referee #2

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This paper shows a review of urban flood models for inundation prediction. The structure was clearly organized and presented. But I expect the detailed model description and comparisons which can derive specific conclusions and provide informative insights for model users. This paper still needs to be largely modified in terms of model comparisons and English language.

1.The introduction emphasized the importance of urban flooding and explained the reasons to choose this topic. I doubt that there was less emphasis on urban surface water flooding compares to fluvial and coastal flooding. Please specify this. How does urban flooding will increase in severity and frequency due to climate change in the

future? 2.every figure and table needs to be explained in details in the text. 3. It is suggested to explain the physics behind the model clearly. In the section 3, please explain the equations clearly. 4. it is not suggested to use words like 'some' and 'very' and in the text. 5. please explain horizontal coupling and vertical coupling (in Figure 5) in the text. Figure 6 is not clear. What does green area mean in Figure 6? 6. Line 310: CA models can produce reliable results..... but the authors commented that CA approaches ..... still need to be further verified in line 315. 7. The future challenges of these models needs to be discussed thoroughly.

Please also note the supplement to this comment:
https://hess.copernicus.org/preprints/hess-2020-655/hess-2020-655-RC2-supplement.pdf

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., https://doi.org/10.5194/hess-2020-655, 2020.