

Paper offers ideas to design a post-Harvey Houston for the future

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Credit: Polina Zimmerman from Pexels

Being honest about the extent and urgency of the Houston-Galveston region's flooding problem will not harm the community but will form the basis for recovery, according to a paper by an engineering and

environmental expert at Rice University's Baker Institute for Public Policy.

The paper, ["Hurricane/Tropical Storm Harvey: Policy Perspectives."](#) was authored by Jim Blackburn, a lawyer, professor in the practice of environmental engineering at Rice, Baker Institute Rice Faculty Scholar and co-director of Rice's Severe Storm Prediction, Education and Evacuation from Disasters (SSPEED) Center. It puts forth a list of 15 policies and actions that are meant to initiate a conversation about designing a Houston for the future.

Blackburn noted the report is not about the technical aspects of Harvey as a devastating hurricane. A major, forthcoming report from SSPEED will offer an initial comprehensive assessment of facts and figures about Harvey, he said.

"Denying fundamental truths and moving forward with business as usual will be the economic death knell for the Houston region," Blackburn wrote. "And make no mistake about it—how we respond to this horrible reality will determine the economic future of our region."

Blackburn said it is doubtful that any city in the United States or the world could have "handled" 40 inches of rain in 3.5 days or even 16 inches in 24 hours. "This is a huge amount of water to handle," he wrote. "However, the extent of the damages and misery can be substantially reduced the next time we have a similar 'weird weather' event that now seems the norm."

Blackburn said a clear starting point is to identify the areas that did not flood during Harvey. "These areas will form the backbone of the Houston of tomorrow," he wrote.

"There are several areas, mostly deep in the mapped floodplains, where

multiple floods have damaged homes again and again," Blackburn wrote. "Some have been flooded three or more times since Tropical Storm Allison in 2001. We need to identify these [areas](#) and remove these homes from harm's way; it is unlikely we can develop strategies to protect them from severe rainfall events that are much more frequent than labels such as '100-year' or even '500-year' rainfall events suggest. In order to do this, there will need to be a massive buyout program. At this early stage, it has been estimated that over 75,000 homes flooded during and after Harvey; that number is likely to double when all the data is in. A fair but extensive program of home buyout and removal must be established."

Based on the above two steps, three clear geographic zones of strategy will become evident, Blackburn said. "They should be mapped and separate policies should be considered for what might be regarded as the 'safe' area, a 'transitional' area, where only single-event flooding has occurred, and the 'buyout' area, which will become a key element of our future green infrastructure that will, along with the 'safe' area, provide urban design definition to the Houston of tomorrow," Blackburn wrote.

"It is time to pull out every option that we have and figure out how to use them collectively," Blackburn concluded. "It is not all or nothing. It is a mixture of strategies both structural and nonstructural that will lead us to find better ways to live here on the Texas coast."

Provided by Rice University

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