Hurricane Harvey: Experiences, Consequences and Public Support for Proposed Policies

Renee Cross
James Granato
Pablo Pinto
Hobby School of Public Affairs
University of Houston

Mark Jones
Robert Stein
Rice University
How the survey was conducted

• 815 cell and landlines telephone interviews with residents in Harris Count, previously interviewed in November-December, 2017.

• Margin of error=3.4%

• Interviews conducted between June-July, 2018

• Over sample in areas where flooding was most likely to have occurred i.e., reported rainfall > 2 feet.

• Sample in Harris County weighted to reflect actual proportion of renter and owner occupied residences
What Happened to you and your family as a result of Hurricane Harvey? [N=2,002, 11/17-12/18]

<table>
<thead>
<tr>
<th>Event</th>
<th>Did not Happen</th>
<th>Extremely Serious</th>
<th>Very Serious</th>
<th>Somewhat Serious</th>
<th>Not Serious At All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lost wages and expenses</td>
<td>42.8%</td>
<td>11.2%</td>
<td>12.7%</td>
<td>23.3%</td>
<td>10.0%</td>
</tr>
<tr>
<td>Lost power</td>
<td>53.3%</td>
<td>5.8%</td>
<td>7.7%</td>
<td>17.6%</td>
<td>15.7%</td>
</tr>
<tr>
<td>Downed trees or branches</td>
<td>53.5%</td>
<td>2.9%</td>
<td>5.1%</td>
<td>19.8%</td>
<td>18.7%</td>
</tr>
<tr>
<td><strong>Flood damage to residence</strong></td>
<td><strong>60.2%</strong></td>
<td><strong>10.2%</strong></td>
<td><strong>7.6%</strong></td>
<td><strong>12.3%</strong></td>
<td><strong>9.7%</strong></td>
</tr>
<tr>
<td>Roof damage to residence</td>
<td>66.3%</td>
<td>3.8%</td>
<td>3.2%</td>
<td>14.3%</td>
<td>12.5%</td>
</tr>
<tr>
<td>Flood damage to car</td>
<td>68.5%</td>
<td>9.4%</td>
<td>5.9%</td>
<td>7.3%</td>
<td>8.9%</td>
</tr>
<tr>
<td>Lost water</td>
<td>74.7%</td>
<td>2.9%</td>
<td>4.0%</td>
<td>6.8%</td>
<td>11.6%</td>
</tr>
<tr>
<td>Personal injury</td>
<td>83.4%</td>
<td>1.5%</td>
<td>1.7%</td>
<td>3.2%</td>
<td>10.2%</td>
</tr>
<tr>
<td>Home broken into/looted</td>
<td>86.2%</td>
<td>1.1%</td>
<td>1.1%</td>
<td>2.1%</td>
<td>9.5%</td>
</tr>
</tbody>
</table>
Support for bond by likely voters

- **Vote for the bond**
  - Yes: 62.1%
  - No: 37.9%

- **Vote against the bond**
  - Yes: 9.5%
  - No: 90.5%

- **Unsure**
  - Yes: 28.4%
  - No: 71.6%
Support for bond by damage to residence due to Hurricane Harvey

Note: “Yes” means respondents who had damage to their residence due to Hurricane Harvey
Support for bond by prior flooding experience

“Yes” means respondents who or whose family members experienced a personal injury, property damage, or had to evacuate in face of severe weather since 2001
Support for bond by partisanship

- **Vote for the bond**
  - Republican: 57.7%
  - Democrat: 62.8%
  - Independent: 51.2%
  - Others: 46.8%

- **Vote against the bond**
  - Republican: 9.5%
  - Democrat: 8.2%
  - Independent: 8.3%
  - Others: 15.9%

- **Unsure**
  - Republican: 32.9%
  - Democrat: 29.0%
  - Independent: 37.2%
  - Others: 40.5%
Support for bond among first wave respondents who opposed raising property taxes to fund future flood control

The data come from the respondents who opposed raising property taxes to mitigate the impact of severe weather events in the December wave of survey. N=202
“Some people believe that much of the money from the $2.5 billion bond issue for flood control will go to politically connected developers and construction firms instead of directly helping risk reduction projects throughout the county. Do you share this concern? Are you extremely concerned, very concerned, somewhat concerned, not very concerned, or not at all concerned?”
“How confident are you that your elected county and city representatives know how to reduce/mitigate the negative impact of future flooding in the Houston area? Are you very confident, somewhat confident, not confident, or not confident at all?”
“Have you lived in the Houston area all your life, or did you move here from somewhere else?”

- Lifetime resident: 38.5%
- Moved to Houston: 61.0%
- Nonresponse: 0.4%
Probability of voting for bond by length of residence in county
What we need to know about flooding

• Where does it flood?
• Why does it flood in specific locations?
• Why do people prepare for severe weather?
• Why do people comply with official directives during severe weather episodes?
On-going research

• In collaboration with the Houston Fire Department and City’s Office Emergency Preparedness Rice researchers have completed a survey of Fire personnel to identify streets and intersections that experience street flooding during severe storm episodes—this information will also guide the deployment of runoff sensor devices.

• Replication of the fire fighters survey with subscribers to the City of Houston’s *CitizensNet* (N=~ 100K).

• The second part of the agenda incorporates information about the street locations that frequently flood to evaluate the efficacy and public evaluation of select City and County flood control projects.