Extreme Weather Exacerbates Housing Shortage Crisis

• Hurricane Harvey damaged almost 200,000 homes, nearly 2,000 were federally subsidized.

• Hurricane Maria destroyed more than 70,000 homes in Puerto Rico.

• 33 NYC Housing Authority buildings damaged by Superstorm Sandy in 2012. Only 1 rebuild had been completed 5 years later.

*Center for American Progress 2019
Resilience and Energy Assessment of Communities and Housing (REACH) Initiative in the Tampa Bay Region

Lead: Tampa Bay Regional Planning Council

Technical Advisors: UF Shimberg Center for Housing Studies, University of Florida, Florida Center for Community Design and Research, United Way Suncoast

Sponsor: CHASE
REACH Objectives

1. Develop **consistent frameworks** and methods to evaluate plans and community vulnerability;

2. Create **standardized approach** for mapping affordable housing stock exposure to coastal flooding;

3. Define approaches for **assessing housing energy consumption** and opportunities;

4. Develop goals for the **Tampa Bay Regional Resilience Action Plan**;

5. Support updates to **local plans**;

6. **Provide training** and technical assistance; and

7. **Integrate ALICE (United Way)** principles into resilience.
REACH Housing and Flood Hazard Web Application

A web-based ESRI ArcGIS mapping application for the 7-county Resilience Coalition to assess exposure of publicly subsidized and market-rate housing to current flood hazards and future sea level rise.
REACH Suite of Resources

- **Web-Based Geospatial Data Library**: UF Shimberg geospatial library that enables downloading of the Affordable Housing and Coastal Flood Hazard web application’s regional flood hazard data and housing information.

- **Guide to Conducting Community Vulnerability Assessments**, USF FCCD+R

- **Resilient Affordable Housing Planning and Policy Checklist**, Florida Housing Coalition

- **Housing Resilience Funding Guide**: Florida Housing Coalition

- **HUD Consolidated Plan Hazard Mitigation Element Guide**: Florida Housing Coalition

Access links to resources at www.tbrpc.org/resiliency/housing/
Development of REACH Checklist

✔ Research and Local Plan Review
✔ Coordination with REACH Partners, Local Governments and TBRPC
✔ Beta-Test, Workshops and Webinars
✔ Direct Technical Assistance
✔ Data Analysis, Regional Summary, Next Steps, Recommendations
REACH Planning & Housing Self-Assessment Checklist for Local Governments

Checklist and Guide available at TBRPC.org
Resilience Indicators: Priority Areas & Populations

- Location
  - Coastal High Hazard Areas (CHHA)
  - Special Flood Hazard Areas (SFHA)

- Housing Type & Condition
  - Substandard Housing
  - Mobile Homes

- Population
  - Low-Income Households
  - Elderly Households
  - Persons with a Disability
The Goal: A Resilient Housing Stock

If your goal is a resilient housing stock, your objectives are these Community Vulnerability Assessment (CVA) planning components.
Plan-Specific Areas of Opportunity

- Comprehensive Plan
- Local Mitigation Strategy
- Local Housing Assistance Plan
- Post Disaster Redevelopment Plan
- Community Rating System Plan/Floodplain Management
- Construction/Rehabilitation Standards
Regional Analysis

Top 3 Performing Plans

1. Local Mitigation Strategy
2. Community Rating System Plan/Floodplain Management
3. Comprehensive Plan
Regional Analysis

Areas with Greatest Potential for Improvement

1. Post Disaster Redevelopment Plan
2. Construction/Rehabilitation Standards
3. Hazard Risk Assessments
Defining Coastal Flood Hazards and Affordable Housing Exposure

Andrea Galinski, Research Scholar, University of Florida
Matt Varkony, PhD Candidate, University of Miami/NAS Fellow TBRPC
Region’s rental housing stock is growing, but leaving out affordable units.

The region added just under 155,000 rental units between 2000-2019, which is about **44% growth over the last almost 20 years**.

However, the **vast majority were higher priced units** that rent for $1,000 or more

- Net increase ~155,000 rental units
- $1,000+ units grew by ~105%
- Units at or below $1,000 stayed the same, or slightly fell by ~2%

![Rental Units 2000-2019](image)
Where can we learn more about affordable housing needs?

Housing Needs Data Portal

Data Portal for Local Governments

- Tenure (renters and homeowners), income, AMI, cost burden, and demographics
- Occupations, average income, rent
- Assisted housing property details, funding program, tenant information
- Rental units above/below $1,000
- Affordable rental surplus/deficit

http://flhousingdata.shimberg.ufl.edu/reach
Regional Snapshot Total Units Of Affordable Housing
7 Counties – Citrus to Sarasota

- **All Residential Parcels**
  ~1.89 million residential units

- **Publicly Subsidized (AHI)**
  ~45,900 assisted AHI units

- **Affordable Market-Rate (NOAH)**
  ~125,700 NOAH units

- **Mobile Home Parcels**
  ~351,000 mobile homes

* Does not include households with housing vouchers

* MH individual parcels and parks
How can we better understand coastal flood hazards?
Flood Hazard Exposure Index (Cumulative, Both Scenarios, 2020-2070)

Quantify current and future coastal flood exposure using several hazard layers, including:
- FEMA floodplain (100, and 500-year)
- Storm surge (Cat 1-3 and Cat 4-5)
- Sea level rise*
- King tide flooding + SLR*
- 10-year storm surge + SLR*
- Post Hurricane Irma flooded lands

Includes 2 climate scenarios:
- NOAA 2017 intermediate-high (IH) and intermediate-low scenarios (IL)
- Years 2020, 2040, 2070

Overall exposure is a sum of values: None, Low, Medium, and High
- None = 0 flood hazards
- Low score = 1-7 flood hazards
- Medium score = 8-15 flood hazards
- High score = 16-23 flood hazards
Where is affordable housing exposed to coastal flood hazards?

Properties exposed to (1+ hazards) coastal flood hazards:

Subsidized Multifamily
- 287 properties
- 30,298 units
  - 66% units exposed/total

Affordable Single-Family/Multifamily/Condos (NOAH)
- 77,013 properties
- 95,536 units
  - 61% units exposed/total

Mobile Homes (Parcels + Parks)
- 58,320 properties
- 194,866 units*
  - 56% units exposed/total

*Includes mobile home individual parcels and parks; use average lot count for each county to determine totals

66% of subsidized housing
61% of affordable market-rate
56% of mobile homes are in a flood hazard area
How could flood hazards affect publicly subsidized properties? By County -- 2020

- King Tide*: 206 units
- 10-year Storm Surge*: 1,597 units
- High Frequency Storm Surge Cat 3: 15,232 units
- Low Frequency Storm Surge Cat 5: 26,835 units
- 100-Year Floodplain: 12,152 units
- 500-Year Floodplain: 14,195 units

* 2020, IH
How do future flood hazards affect publicly subsidized properties? Comparing 2020 to 2070

King Tide (2020 IH) 206 units → King Tide + SLR (2070, IH) 1,887 units (+816%) → 10-year Storm Surge (2020, IH) 1,597 units → 10-year Storm Surge + SLR (2070, IH) 3,770 units (+136%)
### Regional Takeaways

Look into your “high” exposure properties to develop mitigation

<table>
<thead>
<tr>
<th>Development Name</th>
<th>City</th>
<th>County</th>
<th>Assisted Units</th>
<th>Target Population</th>
<th>Year Built</th>
<th>% Elderly</th>
<th>% Children</th>
<th>% White</th>
<th>% Black</th>
<th>% Hispanic</th>
<th>Avg. HH Income</th>
<th>Floodplain Composite Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aqua Apartments</td>
<td>Tampa</td>
<td>Hillsborough</td>
<td>197</td>
<td>Elderly; Family</td>
<td>1971</td>
<td>97%</td>
<td>0%</td>
<td>10%</td>
<td>5%</td>
<td>85%</td>
<td>$11,410</td>
<td>100-Year Floodplain</td>
</tr>
<tr>
<td>Landings At Sea Forest</td>
<td>New Port Richey</td>
<td>Pasco</td>
<td>200</td>
<td>Elderly; Family</td>
<td>1998</td>
<td>93%</td>
<td>44%</td>
<td></td>
<td></td>
<td></td>
<td>$21,079</td>
<td>100-Year Floodplain</td>
</tr>
<tr>
<td>Laurel Trace</td>
<td>St. Petersburg</td>
<td>Pinellas</td>
<td>9</td>
<td>Persons w/ Disabilities</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>n/a</td>
<td>100-Year Floodplain</td>
</tr>
<tr>
<td>Riverside - Tarpon Springs</td>
<td>Tarpon Springs</td>
<td>Pinellas</td>
<td>258</td>
<td>Family</td>
<td>2001</td>
<td>17%</td>
<td>58%</td>
<td></td>
<td></td>
<td></td>
<td>$22,894</td>
<td>500-Year Floodplain</td>
</tr>
</tbody>
</table>

*Table results from web application*
Regional Takeaways

- Certain AHI properties will be increasingly subject to multiple flood hazards over time; these properties could be explored for priority mitigation.

- Direct inundation due to SLR (including king tide + SLR, 10-year storm surge + SLR) may not affect AHI stock as much as other hazards:
  - Stock tends to be located more inland, less on the immediate coast.

- The 100-year floodplain and high frequency storm surge (Cat 3), encompass much more housing stock:
  - Consider inland flooding areas (floodway, 100-year, and 500-year flood zones), in addition to SLR-related hazards.
## Density Analysis

**Goal:** Identify areas of highly concentrated, flood exposed affordable housing.

<table>
<thead>
<tr>
<th></th>
<th>General</th>
<th>1% Annual Flood</th>
<th>Surge 1-3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Density</td>
<td>Count</td>
<td>% of Affordable</td>
</tr>
<tr>
<td>Citrus</td>
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<td>42</td>
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<tr>
<td>Hernando</td>
<td>12376</td>
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<tr>
<td>Hillsborough</td>
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<td>Manatee</td>
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</tr>
<tr>
<td>Pasco</td>
<td>34428</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td>Pinellas</td>
<td>29930</td>
<td>36</td>
<td></td>
</tr>
</tbody>
</table>
Hillsborough County Dispersion of Affordable Housing in the 1% Annual Flood Zone
Hillsborough County
Hot Spots of
Affordable Housing
in the 1% Annual
Flood Zone
Manatee County Dispersion of Affordable Housing in the 1% Annual Flood Zone
Manatee County
Hot Spots of Affordable Housing in the 1% Annual Flood Zone
Neighborhood Analysis

**Goal:** Identify possible social vulnerabilities of acutely exposed locations

**Focus:** Highest concentrations of affordable housing exposed to multiple flood hazards.

<table>
<thead>
<tr>
<th>Neighborhood</th>
<th>Median Income Neighborhood</th>
<th>Minority Percent Neighborhood</th>
<th>Elderly Percent Neighborhood</th>
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</thead>
<tbody>
<tr>
<td>Citrus</td>
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<td>Hernando</td>
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<td>43</td>
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<tr>
<td>Hillsborough</td>
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<td>9</td>
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<tr>
<td>Manatee</td>
<td>43252</td>
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<td>29</td>
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<tr>
<td>Pasco</td>
<td>37871</td>
<td>14</td>
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</tr>
<tr>
<td>Pinellas</td>
<td>51322</td>
<td>17</td>
<td>25</td>
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</table>

<table>
<thead>
<tr>
<th>Neighborhood</th>
<th>Median Income County</th>
<th>Minority Percent County</th>
<th>Elderly Percent County</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>44237</td>
<td>9</td>
<td>36</td>
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<tr>
<td></td>
<td>48812</td>
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<td>45</td>
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<td>59009</td>
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<td>52828</td>
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<td>23</td>
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<tr>
<td></td>
<td>54090</td>
<td>20</td>
<td>24</td>
</tr>
</tbody>
</table>
Manatee County Median Income of Highest Flood Risk Census Tracts
Manatee County
Minority Percent
of Highest Flood
Risk Census
Tracts
Manatee County
Elderly Percent of
Highest Flood
Risk Census
Tracts
Takeaways and Recommendations
Putting information into action

• Think about the benefits, opportunities, and constraints by housing type:
  • AHI
    • Multifamily mitigation opportunities Keep Safe Florida initiative
    • Publicly funded, so there is a public interest in mitigation
    • Include income qualifications (so tenants are genuinely low income), investment these households
    • Leverage public investment sources (HUD, FHFC) and align with other federal / state mitigation funds
  • NOAH
    • Single-family mitigation opportunities
    • Multifamily mitigation opportunities
    • Reach out to local smaller landlords (lacking in financing) to develop financing sources (such as SBA loans or other..)
      • Need regional, state-level source of annual mitigation funding
      • Need to more effectively distribute existing/future funds SHIP program (?)
  • MH
    • Voluntary acquisition of parcels
    • Up-zoning of large parks for more resilient housing/development

• Think about location of new development, as well as mitigation of existing development!
  • Huge need for affordable housing, but where is it going?
  • How can we balance access to transit, jobs, and flood hazards?
Q&A and Table Discussion

1. **Addressing Existing Homes in Hot Spots:** What potential strategies can local governments and partners implement to increase neighborhood housing mitigation or infrastructure improvements in hot spot areas?

2. **New development or Redevelopment in Areas with Multiple Flood Risks:** What potential policy updates, code changes or incentives could help create more resilient new development?

3. **Regional Collaboration:** What housing resilience programs and/or specific issues should the region collaborate on?

4. **Other suggestions**
Resources Available

Web Apps

Tampa Bay RPC REACH Page
• https://www.tbrpc.org/reach/

Housing Needs Data Portal for Local Governments
• http://flhousingdata.shimberg.ufl.edu/reach

REACH Housing and Flood Hazard Web Application
• https://arcg.is/Hzvzv

REACH Web-Based Geospatial Data Library
• https://shimberg-center-spatial-data-1-1-ufi.hub.arcgis.com/pages/reach-project