Double the Challenge: Housing Affordability and Climate Change

Emily Eisenhauer, Ph.D.
Program Coordinator

UNIVERSITY OF MIAMI
OFFICE of CIVIC & COMMUNITY ENGAGEMENT

November 14, 2014
Housing Affordability

- The average Miami-Dade household spends 58% of income on housing and transportation costs. (H+T Index)

- The median household can afford $1,200 per month for housing (30% of income).

- The average market rent in Miami-Dade is $2,049.
Why It’s a Problem

- Burden for working households
- Difficult to attract and retain talent
- Contributes to sprawl

South Florida Water Management District
Sustainability  Resilience

Climate Change

Mitigation  Adaptation
Figure 17.4. Projected average number of days per year with maximum temperatures above 95°F for 2041-2070 compared to 1971-2000, assuming emissions continue to grow (A2 scenario). Patterns are similar, but less pronounced, assuming a reduced emissions scenario (B1). (Figure source: NOAA NCDC / CICS-NC).
Sea Level Rise

The graph illustrates the projected sea level rise for the years 1980 to 2060. The blue line represents the annual sea level at Key West, while the orange shaded area indicates the projected sea level rise range based on USACE guidance. The blue line shows the historic Key West sea level rise rate for comparison.

- **2010**: Sea level = 0
- **2030**: 3-7 inches
- **2060**: 9-24 inches

The graph shows a steady increase in sea level rise over time, with projections indicating a significant rise by 2060.
<table>
<thead>
<tr>
<th>Change</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Higher temperatures</td>
<td>- More energy use</td>
</tr>
<tr>
<td></td>
<td>- Health impacts</td>
</tr>
<tr>
<td></td>
<td>- Ecosystem impacts</td>
</tr>
<tr>
<td></td>
<td>- Agricultural impacts</td>
</tr>
<tr>
<td>- Fewer hurricanes, but stronger</td>
<td>- More storm damage</td>
</tr>
<tr>
<td>- Sea level rise</td>
<td>- Tidal flooding</td>
</tr>
<tr>
<td></td>
<td>- Higher storm surge</td>
</tr>
<tr>
<td></td>
<td>- Salt water intrusion</td>
</tr>
</tbody>
</table>
Higher Costs

- Infrastructure to deal with sea level rise
- Water treatment
- Food production
- Storm damage
- Insurance
- Construction costs
- Air conditioning

Walter Michot/Miami Herald Staff, October 6, 2014
Impact on Households

- Utility bills
  - Water
  - Energy
  - Storm water
- Food
- Insurance
- Rent

Miami-Dade Cost of Living Budget - $60,168

Economic Policy Institute, 2013
Housing units in Flood Zones
## Housing in Flood Zones

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of Units in SFHA</th>
<th>Percent of County Total</th>
<th>Number of Pre-FIRM Units**</th>
<th>Percent of SFHA Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2 family</td>
<td>123,622</td>
<td>34%</td>
<td>78,837</td>
<td>68%</td>
</tr>
<tr>
<td>detached</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4+ Multi-family</td>
<td>247,775</td>
<td>58%</td>
<td>94,186</td>
<td>40%</td>
</tr>
<tr>
<td>Subsidized*</td>
<td>42,802</td>
<td>50%</td>
<td>9,336</td>
<td>22%</td>
</tr>
<tr>
<td>Public housing</td>
<td>2,737</td>
<td>30%</td>
<td>2,035</td>
<td>74%</td>
</tr>
</tbody>
</table>

* Does not include Section 8 voucher holders

** Estimate based on buildings built before 1975.
Housing Retrofits

- Storm proofing and flood proofing can reduce insurance costs.
- Weatherizing conserves energy.
- Preserving workforce housing near job centers reduces commutes.
- The greenest building is the one already built.

48% of housing built before 1975 is in low-income neighborhoods.
Sustainable Urban Design

- Flood control projects are opportunity for enhanced pedestrian environment.
- Miami Beach is number 10 in the nation for biking to work.
- 53% of hotel and food service workers walk to work.
What’s Next?

• Research and case studies
• Design, policy, and finance innovation
• Encourage dialogue across sectors
• Focus on most vulnerable populations
Office of Civic and Community Engagement
1238 Dickinson Drive
Pentland House Suite 34P

(305) 284-6636
civicengagement@miami.edu

http://www.miami.edu/civic
http://www.facebook.com/umiamicivicengagement