Chapter 2 Workshop: Community Vulnerability
Regional Resilience Action Plan

Nov. 05, 2020
GREETINGS AND THANK YOU!

CJ REYNOLDS
Director of Resilience and Engagement

CARA SERRA
Comprehensive Resiliency Planner

SIMONE CHAPMAN
NAS GRP Science & Policy Fellow

TBRPC Team
1. Welcome, Agenda and Introductions  9:00 - 9:20
2. Update on Chapter 1 Workshop  9:20 - 9:30
3. Backgrounding and Q&A  9:30 - 10:30
   a. Regional Update
   b. ALICE
   c. Community Health
   d. Climate Impacts to Health
4. Break  10:30 -10:45
5. Housing and Risks Q&A  10:45 -11:15
6. Recap and Prep for Breakout  11:15 - 11:30
7. Main Breakout: Visioning  11:30 - 12:15
8. Lunch  12:15 - 12:40
9. Breakout Instructions  12:45 - 1:15
   a. Public Health
   b. Housing and Neighborhoods
10. Report Outs  1:15 - 1:45
11. Wrap up  1:45 - 1:55
Let’s Meet and Greet!

Please turn your video and unmute yourself.

Your Name, Title and Organization and interest today (in 5 words or less)

Sign up
ACKNOWLEDGEMENTS

Environmental Protection Agency

FUNDING TO SUPPORT PLANNING FOR RESILIENT COMMUNITIES IN THE TAMPA BAY REGION

JP Morgan Chase Foundation

TECHNICAL SUPPORT FROM THE: NOAA OFFICE FOR COASTAL MANAGEMENT
MEETING OBJECTIVES

1. Update -- climate change indicators, stressors and non-climate stressors

2. Define community factors and risks -- ALICE, health and housing

3. Develop draft aspirational visions, goals and objectives

Learn from each other!
DEVELOPMENT of the RRAP

Development of a Regional Resiliency Action Plan with strategies for coordinated regional preparation for and adaptation to a rapidly changing global environment based on mapping of projected sea-level rise and resulting amplification of localized impacts of hurricanes and tropical storms. Plan must also identify funding strategies for mitigation and adaptation actions to deal with those impacts.

STRATEGIES BASED IN SCIENCE

Strategies and actions be based on sound science and technical data, and for coalition members to identify experts for guidance. Encourages use of regionally recognized sea-level rise projections by the TB-CSAP to assess vulnerability, inform planning efforts, and provide guidance on what sea-level rise projections should be incorporated into local planning efforts.
RRAP SCOPE AND PURPOSE

PURPOSE

- Creates a positive aspirational vision of resilient communities — coastal and inland urban, suburban and rural
- Considers federal and state planning requirements
- Defines best practices, national metrics, certification programs
- Includes a scorecard
- Address equity issues throughout the entirety of the document

SCOPE

- Defines new or identifies existing goals, objectives, actions — local and regional — to support alignment on critical issues
- Develop actionable strategies for the next 5 years.
- Prioritize goals and actions to facilitate forward progress through:
  - Ensuring goals are high level to ensure widespread acceptance
  - Including a strong focus on risk reduction and adaptation
  - Integrating mitigation and sustainability
UPDATE ON CHAPTER 1 WORKSHOP

HAZARDS, STRESSORS, INDICATORS, GOALS
Workshop on Oct 30, 2020

• Risk Identification: Establish risk-based framework for how to consider climate change.

• Summarize relevant climate change trends and projections.

• Sets goals related to improving tracking of climate change indicators, and encourage regional consistency in data use and communication.
Chapter 2-5

COMMUNITY VULNERABILITY

Health, Wellbeing, Housing Risks

PEOPLE

Engagement, education, Leadership/ Governance

PLACE

Habitats, Ecosystems, Affordable Housing, Critical Infrastructure

PROSPERITY

Economy
HAZARDS

FLOOD
General or temporary conditions of partial or complete inundation of normally dry land areas from the overflow of inland or tidal water and of surface water runoff from any source.

TROPICAL CYCLONE
Includes tropical depressions, tropical storms and hurricanes.

SEVERE STORM
Thunderstorms with wind, water, and lightning. Storms are severe if they produce hail at least one inch in diameter, winds of 58 mph or stronger, or a tornado.

DROUGHT
Drought is a deficiency in precipitation over an extended period, usually a season or more, resulting in a water shortage.

EXTREME HEAT
Extreme heat is defined as extended period where the temperature and relative humidity combine for a dangerous heat index.

GEOLOGICAL (SINKHOLES)
Sinkholes are landforms created when overburden subsides or collapses into fissures or cavities in underlying carbonate rocks.

ALGAL BLOOMS
Harmful algal blooms, or HABs, occur when colonies of algae — simple plants that live in the sea and freshwater

BIOLOGICAL
A Biological Incident can refer to many different types of incidents, involving bacteria, viruses, or toxins, all of which can be harmful or deadly to humans and animals.
CONDITIONS EXACERBATING HAZARDS

- Ch 1 - Climate Indicators
- Ch 2 - Community Vulnerability
- Ch 3 - People
- Ch 4 - Place
- Ch 5 - Prosperity

https://toolkit.climate.gov/steps-to-resilience/explore-hazards
PROPOSED CLIMATE INDICATORS FOR THE REGION

1. **MEAN SEA LEVEL**  NOAA
2. **ANNUAL AVG PRECIPITATION**  NOAA
3. **ANNUAL AVG AIR TEMPERATURE**  NOAA
4. **ANNUAL AVG WATER TEMP**  EPCHC
5. **BAY/GULF pH**  EPCHC/USGS
CLIMATE STRESSORS

Condition, event, or trend related to climate variability and change that can exacerbate hazards.

INCREASED AIR TEMPERATURE
Hotter nights; more consecutive days of 95+ temperatures; extreme heat index

INCREASED WATER TEMPERATURE
Warmer water expands, contributing to sea-level rise; influences weather patterns; affects marine species

SEA LEVEL RISE
Thermal expansion; melting of land-based ice

EXTREME RAINFALL
Changes in the timing and delivery of precipitation; intensified heavy downpours; May not result in increased average annual rainfall

OCEAN ACIDIFICATION
Change in ocean chemistry due to atmospheric carbon dioxide; “Osteoporosis of the Sea”
NON-CLIMATE STRESSORS

A change or trend unrelated to climate that can exacerbate hazards.

LAND USE CHANGE
Residential or industrial development, roads, infrastructure, agriculture, or forestry activities resulting in habitat fragmentation, degradation, or loss.

POPULATION GROWTH
Increased density in vulnerable areas puts more people at risk during a natural disaster and increased density can make it more difficult to control disease outbreaks.

SOCIOECONOMIC VULNERABILITY
Residents with limited resources to prepare for natural disasters and recover from natural disasters will be more vulnerable to impacts.

NUTRIENT POLLUTION
Excess nutrients from stormwater, residential fertilizer, wastewater, automobiles, and power generation facilities can enter into waterbodies and exacerbate harmful algal blooms.

LAND DEVELOPMENT
Altering drainage patterns and replacing open land with roads and buildings are non-climate stressors for flooding hazards.

OTHERS
PROPOSED IMPACT INDICATORS

IMPACTS: effect/result of interaction between climate phenomena, related hazards, vulnerability, and exposure.

EXCEPTIONAL TIDAL FLOODING NOAA
Seasonal “king tides” that cause sporadic road closures and other infrastructure impacts.

VECTOR-BORNE ILLNESS CDC
Diseases caused by bacteria, viruses, or parasites transmitted through the bites of mosquitoes, ticks, or fleas.

HABITAT MIGRATION TBEP
The Critical Coastal Habitat Assessment provides information on how marshes, mangroves, and salt barrens are responding to local sea-level change.

HEAT RELATED-ILLNESS CDC
This indicator provides data on hospitalizations due to heat related-illness.

HARMFUL ALGAL BLOOM DURATION/SEVERITY FWCC FWRI
This indicator provides information on cell counts and duration of harmful algal blooms.

CHANGE IN GROWING SEASON LENGTH EPA
The length of the growing season in any given region refers to the number of days when plant growth takes place.
DRIVERS: Factors that change the Earth’s radiative balance.

GHG EMISSIONS EPA
Annual report presents estimates of U.S. anthropogenic greenhouse gas emissions and sinks.

LAND USE/LAND COVER CHANGE SWFWMD
2017 land use and land cover features for 16-county region.

POPULATION CHANGE BEBR
Estimates and projections of population by county.

PUBLIC OPINION ON CLIMATE CHANGE YALE CENTER FOR CLIMATE COMMUNICATION
Climate change beliefs, risk perceptions, and policy support vary at the state, congressional district, metro area, and county levels.
State emergency management director visits flood site in Manatee
<table>
<thead>
<tr>
<th>Counties</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>Citrus County</td>
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<td>2.</td>
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<td>3.</td>
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<td>6.</td>
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<td>1. Bradenton</td>
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<td>2. Bradenton Beach</td>
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<td>3. Clearwater</td>
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<td>4. Dunedin</td>
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<td>5. Gulfport</td>
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<td>6. Holmes Beach</td>
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<td>7. Indian Rocks Beach</td>
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<td>8. Indian Shores</td>
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<td>9. Largo</td>
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<td>10. Long Boat Key</td>
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<td>11. Madeira Beach</td>
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<td>12. New Port Richey</td>
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<td>13. Oldsmar</td>
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<td>14. Palmetto</td>
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<td>15. Redington Beach</td>
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<td>16. Safety Harbor</td>
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<td>17. Sarasota</td>
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<td>18. Seminole</td>
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<td>19. South Pasadena</td>
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<td>20. St. Petersburg</td>
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<tr>
<td>21. St. Pete Beach</td>
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<tr>
<td>22. Tampa</td>
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<td>23. Tarpon Springs</td>
<td></td>
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<td>24. Treasure Island</td>
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</tbody>
</table>

Janet C. Long
Coalition Chair, Pinellas County Commissioner

Working together to increase coordination, collaboration, and consistency to create more resilient, vibrant communities.
Some counties, cities and TBRPC are using NOAA High for vulnerability and exposure assessments for critical infrastructure.

Projects include:

- TBRPC, Hillsborough, Pinellas, Pasco MPO Federal Highway Administration vulnerability assessment of roads for 2045 Long Range Transportation Plan -- NOAA High plus Cat 3. (Final Report.)
- Pinellas Vulnerability Assessment

Community Vulnerability Assessments

- Hillsborough County completed in-depth CV Study and draft mitigation strategies
- Others?
FHWA: Cat 1 & 3 Comparison in 2019 and 2045 with NOAA High SLR

Notes: from the FHWA project for LRTP update
NOAA High for 2045 = 2.16 feet
Peril of Flood Project 2019
Inundation of CRAs
2045 NOAA (High) + Cat 3

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<th>CRA</th>
<th>Total Acreage</th>
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<td>Oldsmar Town Center</td>
<td>164.51</td>
<td>164.51</td>
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<td>St Pete Beach Gulf Blvd / Downtown</td>
<td>196.44</td>
<td>196.44</td>
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<td>Tarpon Springs Downtown</td>
<td>225.26</td>
<td>203.83</td>
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<td>Pinellas Park Downtown</td>
<td>1,350.82</td>
<td>1,146.54</td>
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<td>Safety Harbor Downtown</td>
<td>256.14</td>
<td>198.16</td>
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<td>St Petersburg Intown</td>
<td>617.46</td>
<td>343.93</td>
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<td>Dunedin Downtown</td>
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<td>South St Petersburg</td>
<td>4,746.01</td>
<td>1,099.02</td>
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<tr>
<td>Clearwater Downtown</td>
<td>600.78</td>
<td>50.24</td>
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<tr>
<td>Lealman</td>
<td>2,526.53</td>
<td>213.49</td>
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<tr>
<td>Belleair Belleview Biltmore Hotel</td>
<td>20.13</td>
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<td>Largo West Bay Drive</td>
<td>409.69</td>
<td>11.91</td>
<td>3%</td>
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<td>Gulfport 49th Street Corridor</td>
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<tr>
<td>St Petersburg Intown West</td>
<td>121.68</td>
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<td>0%</td>
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<tr>
<td>Largo / Clearwater-Largo Road</td>
<td>305.38</td>
<td>0.00</td>
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</table>
Resilience & Energy Assessment of Communities and Housing

Bring together our region's housing, resilience, and recovery planning experts, decision makers and community leaders

Assess risks and vulnerability to affordable housing and LMI communities to extreme weather and sea level rise

Define strategies and policies to increase affordable, resilient and equitable housing development and redevelopment

Jan. 2020-May 2021
Funded by:
REACH Objectives

1. Develop consistent frameworks, methods and metrics for evaluating community vulnerability and affordable housing risks;
2. Create standardized approach for mapping housing inundation and risk zones;
3. Define approaches for assessing housing energy consumption and opportunities;
4. Create regional road map for integrating affordable housing and resilience planning;
5. Integrate ALICE (UnitedWay) into resilience;
6. Support updates to comp plans, HUD Con.plans, post-disaster recovery plans, re/development plans;
7. Provide training and technical assistance to use new tools, updates; and
8. Prioritize construction in less vulnerable areas, connected to transportation.
Community Vulnerability Assessment Methodology and User Guide (USF FCCDR)

Housing & Resilience Plan Self-Assessment: Checklist and Webinars (FHC)

Housing Flood Risk Mapper (UF Shimberg)
DEFINE EQUITY METRICS FOR RESILIENCE

Conducted literature search
Compiled 30+ frameworks and reports

Meetings withPinellas HIAP, Coalition Partners to discuss frameworks

Discuss key metrics for integrating into REACH tools and RRAP

Dec 11, 9:00 -11:30 WORKSHOP

Create maps and reports for REACH for local governments

https://docs.google.com/spreadsheets/d/1ZHeGlpGvA81K7vyW6JTOy5iGuTS0fkZSwm3--neMVE/edit#gid=0
CHAPTER 2: Community Vulnerability

Population
- Household Composition
- Income, age, marital status
- Race/Ethnicity/Language
- Transportation Disadvantaged
- Health and wellbeing

Housing & Neighborhood Vulnerability
- Repetitive loss properties
- Building elevation, type and age
- Housing affordability, neighborhood stability
- Gaps in amenities that support resilience
Background Session -- Q&A
ALICE and HEALTH
Presenters
ALICE and HEALTH

DOUG GRIESENAUER
Director, Workforce Development & Financial Stability Initiatives
UNITED WAY SUNCOAST & REACH TEAM

CAITLIN MURPHY
Health Planner / HiAP Program Coordinator
PINELLAS COUNTY

DR. PAUL ROBINSON
Emergency Medicine Specialist
TARPON SPRINGS
FCCA Spokesperson
UNDERSTANDING ALICE IN THE TAMPA BAY REGION

Doug Griesenauer
United Way Suncoast
Asset Limited
Income Constrained
Employed

all data available at: www.unitedforalice.org/florida
Federal Poverty Line would only account for housing and childcare (or housing and food for single adults) in a more realistic budget.

Budget Comparison, Florida, 2018

Monthly Costs

- Federal Poverty Level (1 Person)
- Household Survival Budget (1 Adult)
- Senior Survival Budget (1 Adult)
- Federal Poverty Level (4 People)
- Household Survival Budget (2 Adults, 2 in Childcare)

Categories:
- Taxes
- Miscellaneous
- Technology
- Health Care
- Transportation
- Food
- Child Care
- Housing

Legend:
- Poverty
- Housing
- Child Care
- Food
- Transportation
- Health Care
- Technology
- Miscellaneous
- Taxes
Rural Florida has greatest percentage of people below ALICE.
<table>
<thead>
<tr>
<th></th>
<th>Single Adult</th>
<th>Two Adults</th>
<th>Two Adults, Two School-Age Children</th>
<th>Two Adults, Two in Child Care</th>
<th>Single Senior</th>
<th>Two Seniors</th>
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<tbody>
<tr>
<td>Housing</td>
<td>$691</td>
<td>$765</td>
<td>$939</td>
<td>$939</td>
<td>$691</td>
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<tr>
<td>Child Care</td>
<td>$0</td>
<td>$0</td>
<td>$409</td>
<td>$1,162</td>
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<tr>
<td>Food</td>
<td>$289</td>
<td>$600</td>
<td>$1,001</td>
<td>$874</td>
<td>$246</td>
<td>$511</td>
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<tr>
<td>Transportation</td>
<td>$375</td>
<td>$546</td>
<td>$843</td>
<td>$843</td>
<td>$329</td>
<td>$455</td>
</tr>
<tr>
<td>Health Care</td>
<td>$200</td>
<td>$507</td>
<td>$803</td>
<td>$803</td>
<td>$497</td>
<td>$993</td>
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<tr>
<td>Technology</td>
<td>$55</td>
<td>$75</td>
<td>$75</td>
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<tr>
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<td>$287</td>
<td>$448</td>
<td>$527</td>
<td>$207</td>
<td>$318</td>
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<tr>
<td>Taxes</td>
<td>$254</td>
<td>$380</td>
<td>$408</td>
<td>$570</td>
<td>$254</td>
<td>$380</td>
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<tr>
<td>Monthly Total</td>
<td>$2,050</td>
<td>$3,160</td>
<td>$4,926</td>
<td>$5,793</td>
<td>$2,279</td>
<td>$3,497</td>
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<td>$59,112</td>
<td>$69,516</td>
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<td>$12.30</td>
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<td>$29.56</td>
<td>$34.76</td>
<td>$13.67</td>
<td>$20.98</td>
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# OUR REGION: ALICE SNAPSHOT

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<thead>
<tr>
<th>County</th>
<th>#</th>
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<tbody>
<tr>
<td>CITRUS</td>
<td>24,294</td>
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<tr>
<td>HERNANDO</td>
<td>28,180</td>
<td>37%</td>
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<tr>
<td>HILLSBOROUGH</td>
<td>151,239</td>
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<tr>
<td>MANATEE</td>
<td>54,293</td>
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<tr>
<td>PASCO</td>
<td>65,640</td>
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<tr>
<td>PINELLAS</td>
<td>142,062</td>
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<tr>
<td>SARASOTA</td>
<td>51,441</td>
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# and % of ALICE Households per County
ALICE IN CITRUS COUNTY

2018 Point-in-Time-Data

Population: 147,929  Number of Households: 62,293
Median Household Income: $39,964 (state average: $55,462)
Unemployment Rate: 6.8% (state average: 5.2%)
ALICE Households: 39.0% (state average: 33.0%)
Households in Poverty: 15.0% (state average: 13.0%)

This equals: 24,294 households in Citrus who are ALICE

<table>
<thead>
<tr>
<th>Category</th>
<th>Single Adult</th>
<th>Two Adults</th>
<th>Two Adults Two School-Age Children</th>
<th>Two Adults Two in Child Care</th>
<th>Single Senior</th>
<th>Two Seniors</th>
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<tr>
<td>Housing</td>
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<td>$600</td>
<td>$798</td>
<td>$798</td>
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<td>Food</td>
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<td>Technology</td>
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<td>$75</td>
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<td>$33.62</td>
<td>$12.72</td>
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</tbody>
</table>

DATA DEVELOPED FOR EACH COUNTY:
SHOWING CITRUS FOR EXAMPLE ONLY

Zip code with highest ALICE rate

ZCTA5 34436, Florida
Total Households: 3,591
Poverty (%): 13%
ALICE (%): 48%
Above ALICE Threshold (%): 39%
### ALICE IN HERNANDO COUNTY

#### 2018 Point-in-Time-Data

<table>
<thead>
<tr>
<th>Category</th>
<th>Single Adult</th>
<th>Two Adults</th>
<th>Two Adults Two School-Age Children</th>
<th>Two Adults Two in Child Care</th>
<th>Single Senior</th>
<th>Two Seniors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>$765</td>
<td>$842</td>
<td>$1,045</td>
<td>$1,045</td>
<td>$765</td>
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</tr>
<tr>
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<td>$0</td>
<td>$0</td>
<td>$393</td>
<td>$1,162</td>
<td>$0</td>
<td>$0</td>
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<tr>
<td>Food</td>
<td>$283</td>
<td>$587</td>
<td>$980</td>
<td>$856</td>
<td>$241</td>
<td>$500</td>
</tr>
<tr>
<td>Transportation</td>
<td>$375</td>
<td>$546</td>
<td>$843</td>
<td>$843</td>
<td>$329</td>
<td>$455</td>
</tr>
<tr>
<td>Health Care</td>
<td>$200</td>
<td>$507</td>
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<td>$803</td>
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<tr>
<td>Technology</td>
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<td>$75</td>
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<td>$75</td>
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<td>$75</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>$195</td>
<td>$295</td>
<td>$457</td>
<td>$538</td>
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<td>Taxes</td>
<td>$271</td>
<td>$395</td>
<td>$426</td>
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<td>$271</td>
<td>$395</td>
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<td>$2,144</td>
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<td>$5,022</td>
<td>$5,915</td>
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<td>Annual Total</td>
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<td>$60,264</td>
<td>$70,980</td>
<td>$28,404</td>
<td>$42,900</td>
</tr>
</tbody>
</table>

This equals: 28,180 households in Hernando who are ALICE

#### Zip code with highest ALICE rate

**ZCTA5 34601, Florida**

- Total Households: 9,267
- Poverty (%): 15%
- ALICE (%): 44%
- Above ALICE Threshold (%): 40%
ALICE IN HILLSBOROUGH COUNTY

2018 Point-in-Time-Data

Population: 1,436,888  Number of Households: 540,142
Median Household Income: $58,480 (state average: $55,462)
Unemployment Rate: 5.2% (state average: 5.2%)
ALICE Households: 28.0% (state average: 33.0%)
Households in Poverty: 14.0% (state average: 13.0%)

This equals: 151,239 households in Hillsborough who are ALICE

<table>
<thead>
<tr>
<th></th>
<th>Single Adult</th>
<th>Two Adults</th>
<th>Two Adults Two School-Age Children</th>
<th>Two Adults Two in Child Care</th>
<th>Single Senior</th>
<th>Two Seniors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>$874</td>
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<td>$1,193</td>
<td>$1,193</td>
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<td>$0</td>
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<td>$253</td>
<td>$525</td>
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<td>$843</td>
<td>$329</td>
<td>$455</td>
</tr>
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<td>$803</td>
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<td>$524</td>
<td>$1,048</td>
</tr>
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<td>Technology</td>
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<td>$75</td>
<td>$75</td>
<td>$75</td>
<td>$55</td>
<td>$75</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>$210</td>
<td>$314</td>
<td>$482</td>
<td>$563</td>
<td>$234</td>
<td>$350</td>
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<tr>
<td>Taxes</td>
<td>$303</td>
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<td>$479</td>
<td>$644</td>
<td>$303</td>
<td>$430</td>
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<td>Monthly Total</td>
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<td>$5,303</td>
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<td>$3,845</td>
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<td>Annual Total</td>
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<td>$63,636</td>
<td>$74,268</td>
<td>$30,864</td>
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<td>Hourly Wage</td>
<td>$13.88</td>
<td>$20.71</td>
<td>$31.82</td>
<td>$37.13</td>
<td>$15.43</td>
<td>$23.07</td>
</tr>
</tbody>
</table>

Zip code with highest ALICE rate

ZCTA5 33605, Florida
Total Households: 7,041
Poverty (%): 34%
ALICE (%): 39%
Above ALICE Threshold (%): 27%
### 2018 Point-in-Time-Data

- **Population:** 394,855
- **Number of Households:** 150,814
- **Median Household Income:** $59,956 (state average: $55,462)
- **Unemployment Rate:** 4.7% (state average: 5.2%)
- **ALICE Households:** 36.0% (state average: 33.0%)
- **Households in Poverty:** 9.0% (state average: 13.0%)

This equals: 54,293 households in Manatee who are ALICE

<table>
<thead>
<tr>
<th></th>
<th>Single Adult</th>
<th>Two Adults</th>
<th>Two Adults Two School-Age Children</th>
<th>Two Adults Two in Child Care</th>
<th>Single Senior</th>
<th>Two Seniors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Housing</strong></td>
<td>$766</td>
<td>$841</td>
<td>$1,078</td>
<td>$1,078</td>
<td>$766</td>
<td>$841</td>
</tr>
<tr>
<td><strong>Child Care</strong></td>
<td>$0</td>
<td>$0</td>
<td>$446</td>
<td>$1,233</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Food</strong></td>
<td>$300</td>
<td>$622</td>
<td>$1,039</td>
<td>$908</td>
<td>$255</td>
<td>$530</td>
</tr>
<tr>
<td><strong>Transportation</strong></td>
<td>$375</td>
<td>$546</td>
<td>$843</td>
<td>$843</td>
<td>$329</td>
<td>$455</td>
</tr>
<tr>
<td><strong>Health Care</strong></td>
<td>$200</td>
<td>$507</td>
<td>$803</td>
<td>$803</td>
<td>$485</td>
<td>$970</td>
</tr>
<tr>
<td><strong>Technology</strong></td>
<td>$55</td>
<td>$75</td>
<td>$75</td>
<td>$75</td>
<td>$55</td>
<td>$75</td>
</tr>
<tr>
<td><strong>Miscellaneous</strong></td>
<td>$197</td>
<td>$300</td>
<td>$475</td>
<td>$557</td>
<td>$217</td>
<td>$328</td>
</tr>
<tr>
<td><strong>Taxes</strong></td>
<td>$276</td>
<td>$405</td>
<td>$464</td>
<td>$633</td>
<td>$276</td>
<td>$405</td>
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<tr>
<td><strong>Monthly Total</strong></td>
<td>$2,169</td>
<td>$3,296</td>
<td>$5,223</td>
<td>$6,130</td>
<td>$2,383</td>
<td>$3,604</td>
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<tr>
<td><strong>Annual Total</strong></td>
<td>$26,028</td>
<td>$39,552</td>
<td>$62,676</td>
<td>$73,560</td>
<td>$28,596</td>
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<tr>
<td><strong>Hourly Wage</strong></td>
<td>$13.01</td>
<td>$19.78</td>
<td>$31.34</td>
<td>$36.78</td>
<td>$14.30</td>
<td>$21.62</td>
</tr>
</tbody>
</table>

### Zip code with highest ALICE rate

- **ZCTA5 34207, Florida**
- **Total Households:** 15,023
- **Poverty (%):** 16%
- **ALICE (%):** 50%
- **Above ALICE Threshold (%):** 33%
ALICE IN PASCO COUNTY

2018 Point-in-Time-Data

Population: 539,630  Number of Households: 205,128
Median Household Income: $54,208 (state average: $55,462)
Unemployment Rate: 5.7% (state average: 5.2%)
ALICE Households: 32.0% (state average: 33.0%)
Households in Poverty: 13.0% (state average: 13.0%)

This equals: 65,640 households in Pasco who are ALICE

<table>
<thead>
<tr>
<th></th>
<th>Single Adult</th>
<th>Two Adults</th>
<th>Two Adults Two School-Age Children</th>
<th>Two Adults Two in Child Care</th>
<th>Single Senior</th>
<th>Two Seniors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>$819</td>
<td>$901</td>
<td>$1,118</td>
<td>$1,118</td>
<td>$819</td>
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<td>$0</td>
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<tr>
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<td>$251</td>
<td>$521</td>
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<td>Transportation</td>
<td>$375</td>
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<td>$843</td>
<td>$843</td>
<td>$329</td>
<td>$455</td>
</tr>
<tr>
<td>Health Care</td>
<td>$200</td>
<td>$507</td>
<td>$803</td>
<td>$803</td>
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<td>$1,016</td>
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<tr>
<td>Technology</td>
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<td>$75</td>
<td>$75</td>
<td>$55</td>
<td>$75</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>$203</td>
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<td>$14.85</td>
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</tbody>
</table>

Zip code with highest ALICE rate

ZCTA5 34668, Florida
Total Households: 19,363
Poverty (%): 19%
ALICE (%): 46%
Above ALICE Threshold (%): 34%
ALICE IN PINELLAS COUNTY

2018 Point-in-Time-Data

Population: 975,280   Number of Households: 405,892

Median Household Income: $52,198 (state average: $55,462)
Unemployment Rate: 5.1% (state average: 5.2%)
ALICE Households: 35.0% (state average: 33.0%)
Households in Poverty: 11.0% (state average: 13.0%)

This equals: 142,062 households in Pinellas who are ALICE

<table>
<thead>
<tr>
<th></th>
<th>Single Adult</th>
<th>Two Adults</th>
<th>Two Adults</th>
<th>Two Adults</th>
<th>Single Senior</th>
<th>Two Seniors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>School-Age</td>
<td>Child Care</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing</td>
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<td>$558</td>
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<tr>
<td>Food</td>
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<td>$924</td>
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<td>$540</td>
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<tr>
<td>Transportation</td>
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<td>$843</td>
<td>$843</td>
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<td>$455</td>
</tr>
<tr>
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<tr>
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<td>$75</td>
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<td>$75</td>
</tr>
<tr>
<td>Miscellaneous</td>
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<td>$351</td>
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<tr>
<td>Taxes</td>
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<td>$519</td>
<td>$730</td>
<td>$299</td>
<td>$435</td>
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<tr>
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<td>$27,504</td>
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<td>$66,228</td>
<td>$79,800</td>
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<td>$33.11</td>
<td>$39.90</td>
<td>$15.37</td>
<td>$23.16</td>
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</tbody>
</table>

Zip code with highest ALICE rate
ZCTA5 33714, Florida
Total Households: 7,999
Poverty (%): 23%
ALICE (%): 42%
Above ALICE Threshold (%): 34%
ALICE IN SARASOTA COUNTY

2018 Point-in-Time-Data

Population: 426,718 Number of Households: 183,721
Median Household Income: $61,683 (state average: $55,462)
Unemployment Rate: 3.3% (state average: 5.2%)
ALICE Households: 28.0% (state average: 33.0%)
Households in Poverty: 10.0% (state average: 13.0%)

This equals: 51,441 households in Sarasota who are ALICE

<table>
<thead>
<tr>
<th></th>
<th>Single Adult</th>
<th>Two Adults</th>
<th>Two Adults Two School-Age Children</th>
<th>Two Adults Two in Child Care</th>
<th>Single Senior</th>
<th>Two Seniors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>$835</td>
<td>$917</td>
<td>$1,175</td>
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<td>$917</td>
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<tr>
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<tr>
<td>Transportation</td>
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<td>$546</td>
<td>$843</td>
<td>$843</td>
<td>$329</td>
<td>$455</td>
</tr>
<tr>
<td>Health Care</td>
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<td>$803</td>
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<td>$75</td>
<td>$55</td>
<td>$75</td>
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<td>$340</td>
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</tr>
<tr>
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<td>$29,928</td>
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<td>Hourly Wage</td>
<td>$13.81</td>
<td>$20.87</td>
<td>$33.08</td>
<td>$39.09</td>
<td>$14.96</td>
<td>$22.46</td>
</tr>
</tbody>
</table>

Zip code with highest ALICE rate

ZCTA5 34234, Florida
Total Households: 8,698
Poverty (%): 21%
ALICE (%): 43%
Above ALICE Threshold (%): 36%
While households with the head under 25 has the highest ALICE rate, their population is relatively small. Adults 65+ are not more likely to be in poverty but are more likely to be ALICE.

Households by Age, Selected Counties, Florida, 2018

Total Households By Age

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Poverty</th>
<th>ALICE</th>
<th>Above ALICE Threshold</th>
<th>Under 25</th>
<th>25 to 44</th>
<th>45 to 64</th>
<th>65 and Over</th>
<th>Total Households</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 25</td>
<td>32%</td>
<td>13%</td>
<td>55%</td>
<td>32%</td>
<td>13%</td>
<td>55%</td>
<td>32%</td>
<td>100%</td>
</tr>
<tr>
<td>25 to 44</td>
<td>25%</td>
<td>12%</td>
<td>63%</td>
<td>25%</td>
<td>12%</td>
<td>63%</td>
<td>25%</td>
<td>100%</td>
</tr>
<tr>
<td>45 to 64</td>
<td>27%</td>
<td>10%</td>
<td>63%</td>
<td>27%</td>
<td>10%</td>
<td>63%</td>
<td>27%</td>
<td>100%</td>
</tr>
<tr>
<td>65 and Over</td>
<td>41%</td>
<td>41%</td>
<td>41%</td>
<td>10%</td>
<td>10%</td>
<td>10%</td>
<td>41%</td>
<td>100%</td>
</tr>
<tr>
<td>Total Households</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

Sources: ALICE Threshold, 2018; American Community Survey, 2018

*Selected Counties include: Citrus, Hillsborough, Pinellas, Sarasota, Manatee, Hernando, and Pasco Counties
ALICE rates by Race/Ethnicity trend along poverty rates

Households by Race/Ethnicity, Selected Counties* Florida, 2018

Sources: ALICE Threshold, 2018; American Community Survey, 2018

*Selected Counties include: Citrus, Hillsborough, Pinellas, Sarasota, Manatee, Hernando, and Pasco Counties
Unemployment is the highest it’s ever been since the Great Depression
Bright side: Dept of Labor (Aug report) says that 78.3% of unemployed report they are temporarily laid off
Dark side: since most people are ALICE, a few months of no income leads to disastrous consequences
As of the August Department of Labor jobs report, 61.7% of the U.S. working population were employed.

Dark side: This trend has been continuing down for decades.

Darker side: Leisure and hospitality was hit hardest, losing 3,842,000 job year-over-year (Aug 2019 – Aug 2020)

---

**Civilian labor force participation rate, seasonally adjusted**

Click and drag within the chart to zoom in on time periods.

- **Total**
- **Men, 20 years and older**
- **Women, 20 years and older**
- **16 to 19 years old**
- **White**
- **Black or African American**
- **Asian**
- **Hispanic or Latino**

**Percent**


Hover over chart to view data.

Note: Shaded area represents recession, as determined by the National Bureau of Economic Research. Persons whose ethnicity is identified as Hispanic or Latino may be of any race.

1 out of 5 (20%) of all homeowners in Florida believes it’s “Very” or “Somewhat likely” that they will be foreclosed upon in the next two months (as of Oct 12).

Source: U.S. Census: https://www.census.gov/programs-surveys/household-pulse-survey/data.html
For renters, nearly half (49%) of all renters in Florida believes it’s “Very” or “Somewhat likely” that they will be evicted in the next two months (as of Oct 12).

Source: U.S. Census: https://www.census.gov/programs-surveys/household-pulse-survey/data.html
Helping ALICE Become More Resilient?

• How does understanding of an accurate ALICE threshold impact how we address affordable and attainable housing? resilience preparation or mitigation?
• What additional data do we need to understand the intersection between ALICE, health, equity, and resilience planning?
• How can we address the intersectionality of housing, transportation, health care, and social vulnerability through a lens of ALICE?
• Could we incorporate ALICE data to existing methods (e.g. map ALICE populations to flood zones)?
Clarifying Questions About ALICE?
HEALTH OF THE REGION

A Community Health Snapshot

Caitlin Murphy, MS, MPH
Health Planner / HiAP Program Coordinator
Pinellas County
cmurphy@pinellascounty.org
WHAT IS HEALTH?

• Health is more than healthcare

• “Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”
  – World Health Organization

• Health is for everyone
LIFE EXPECTANCY INEQUITIES

Life Expectancy at Birth for U.S. Census Tracts, 2010–2015

Screenshots from CityhealthDashboard.com; Data Source: USALEEP, NCHS

### PHYSICAL & MENTAL HEALTH, 2016

**Data Source:** 2016 Behavioral Risk Factor Surveillance System (BRFSS)

<table>
<thead>
<tr>
<th>County</th>
<th>Adults w/ good physical health</th>
<th>Adults w/ good mental health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citrus</td>
<td>80.6% (75.9 - 85.2)</td>
<td>86.6% (82.5 - 90.7)</td>
</tr>
<tr>
<td>Hernando</td>
<td>82.1% (77.9 - 86.4)</td>
<td>85.6% (81.4 - 89.7)</td>
</tr>
<tr>
<td>Hillsborough</td>
<td>87.5% (85.0 - 90.1)</td>
<td>88.9% (86.6 - 91.3)</td>
</tr>
<tr>
<td>Manatee</td>
<td>85.9% (81.5 - 90.3)</td>
<td>88.7% (84.6 - 92.8)</td>
</tr>
<tr>
<td>Pasco</td>
<td>83.0% (78.8 - 87.1)</td>
<td>84.9% (80.8 - 89.0)</td>
</tr>
<tr>
<td>Pinellas</td>
<td>87.4% (84.5 - 90.2)</td>
<td>88.0% (85.2 - 90.8)</td>
</tr>
<tr>
<td>FLORIDA</td>
<td>87.1% (86.4 - 87.8)</td>
<td>88.6% (87.9 - 89.3)</td>
</tr>
</tbody>
</table>

Would you say that in general your health is—

1. Excellent
2. Very good
3. Good
4. Fair Or
5. Poor

Data Source: 2016 Behavioral Risk Factor Surveillance System (BRFSS)
## RESPIRATORY HEALTH

<table>
<thead>
<tr>
<th>County</th>
<th>% of adults who currently have asthma, 2016</th>
<th>% of students who currently have asthma, 2018*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citrus</td>
<td>9.5% (5.9 - 13.1)</td>
<td>9.4% (7.3 - 11.5)</td>
</tr>
<tr>
<td>Hernando</td>
<td>7.0% (4.2 - 9.8)</td>
<td>10.5% (8.2 - 12.7)</td>
</tr>
<tr>
<td>Hillsborough</td>
<td>7.7% (5.8 - 9.7)</td>
<td>11.1% (9.0 - 13.3)</td>
</tr>
<tr>
<td>Manatee</td>
<td>4.4% (1.9 - 6.9)</td>
<td>8.6% (7.0 - 10.2)</td>
</tr>
<tr>
<td>Pasco</td>
<td>11.8% (8.2 - 15.3)</td>
<td>10.9% (8.9 - 12.8)</td>
</tr>
<tr>
<td>Pinellas</td>
<td>6.2% (4.1 - 8.2)</td>
<td>10.7% (8.9 - 12.6)</td>
</tr>
<tr>
<td>FLORIDA</td>
<td>6.7% (6.2 - 7.2)</td>
<td>10.5% (10.2 - 10.9)</td>
</tr>
</tbody>
</table>

Data Source(s): Behavioral Risk Factor Surveillance System (BRFSS), Florida Youth Tobacco Survey (FYTS)

*Among all middle and high school students

---

### Pinellas County COVID-19 Case Rates by Date, Race/Ethnicity

- **Rate Ratios (Ref: White)**
  - Wednesday, October 21, 2020
  - 2.02 Black/White Case Rate Ratio
  - 1.52 Hispanic/White Case Rate Ratio
  - 1.06 Other/White Case Rate Ratio

### Pinellas County COVID-19 Hospitalization Rates by Date, Race/Ethnicity

- **Rate Ratios (Ref: White)**
  - Wednesday, October 21, 2020
  - 2.15 Black/White Hospitalization Rate
  - 0.66 Hispanic/White Hospitalization Rate
  - 0.98 Other/White Hospitalization Rate

Data Source: Unite Pinellas
Heart disease is any disorder that affects the heart's ability to function normally.

- Leading cause of death in the U.S. and Florida.
- Heart disease and stroke continue to be major causes of disability and significant contributors to increases in health care costs in the United States.
Number of Heat-related emergency department visits during summer months

Data Source: FL Environmental Public Health Tracking Portal / AHCA
HiAP changes systems of government decision-making so that healthy public policy becomes the normal way of doing business.

HiAP encourages leaders to consider the health impacts - both positive and negative - along with other factors, when making decisions that affect the community.

HiAP is a collaborative approach that breaks down silos and builds new partnerships to promote health.
HiAP helps us achieve healthier, more resilient communities.

<table>
<thead>
<tr>
<th>COUNTY HEALTH RANKINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>County</td>
</tr>
<tr>
<td>------------</td>
</tr>
<tr>
<td>Citrus</td>
</tr>
<tr>
<td>Hernando</td>
</tr>
<tr>
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<tr>
<td>Manatee</td>
</tr>
<tr>
<td>Pasco</td>
</tr>
<tr>
<td>Pinellas</td>
</tr>
</tbody>
</table>

Rank out of 67 FL counties, with 1 being the healthiest.

Data Source: County Health Rankings, RWJF & University of Wisconsin
# Resources to Implement HiAP

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FL Health CHARTS</strong></td>
<td>Includes health (disease and death rates, health behaviors, life expectancy), demographic, and socioeconomic data for Florida counties, zip codes, or census tracts. Tables, charts, or maps. Profile reports for each county on a variety of topics (injuries, weight, health equity).</td>
<td>FL Dept of Health (FDOH)</td>
</tr>
<tr>
<td><strong>Florida Environmental Public Health Tracking</strong></td>
<td>Data sets on environmental hazards/exposures – built environment, air quality, water, weather – and associated health outcomes. County level and some zip code/census tract.</td>
<td>FDOH</td>
</tr>
<tr>
<td><strong>Housing + Transportation Affordability Index</strong></td>
<td>Thinks about the true affordability of place. Housing and transportation data as maps, charts, and statistics covering 100% of the US population. Costs available from the regional down to the neighborhood level.</td>
<td>Center for Neighborhood Technology</td>
</tr>
<tr>
<td><strong>ParkScore &amp; ParkServe</strong></td>
<td>Comprehensive evaluation of park access and quality. Includes indicator graphics and a map of park poor neighborhoods (10-minute walk measurement).</td>
<td>Trust for Public Lands</td>
</tr>
<tr>
<td><strong>Livability Index</strong></td>
<td>Gives cities a livability score. Includes city &amp;/or zip-code level indicators for housing, neighborhoods, transportation, environment, health, civic/social engagement, + opportunity.</td>
<td>AARP</td>
</tr>
<tr>
<td><strong>County Health Rankings &amp; Roadmaps</strong></td>
<td>Compares counties within the same state against in each other in a number of health categories</td>
<td>RWJF &amp; Uni. of Wisconsin</td>
</tr>
<tr>
<td><strong>City Health Dashboard</strong></td>
<td>Includes census-tract level data on health behaviors, health outcomes, and some Social Determinants of Health (SDoH) for 500 major cities.</td>
<td>NYU / RWJF</td>
</tr>
</tbody>
</table>

Resource List Source: Pinellas County HiAP Collaborative
CLIMATE IMPACTS ON HEALTH

Paul Robison, M.D., Ph.D.

Neuroanatomist and Emergency Doctor
Whose health is most at risk from extreme heat?

- People with disabilities, pregnant or already infirm
- The poor, displaced and homeless
- Children and the elderly
- Outdoor workers
- Athletes and attendees of outdoor events

[Source: www.ghhin.org / #HeatHealth]
UNDERSTANDING HEAT

Impacts of rising temperatures on health:

- More frequent heat waves & urban heat island effect
- Increased dehydration and heat stroke
- Aggravated cardiovascular and respiratory disease
Extreme heat is among the deadliest weather hazards in the United States. When temperatures spike, so do heat-related deaths and hospital admissions for illnesses such as heat exhaustion. People who are elderly, young children, those experiencing poverty, and other vulnerable groups are particularly susceptible to these effects. New analysis from the Union of Concerned Scientists (UCS) points to a future in which such dangerous, even deadly, heat will occur regularly throughout most of the country. As global temperatures rise, driven by heat-trapping emissions, people will experience more frequent and more intense episodes of extreme heat.

UCS has analyzed climate projections to find out where and how often in the contiguous United States the heat index (the National Weather Service's "feels like" temperature) could top 90°F, 100°F, and 105°F during future warm seasons—April through October—if no action is taken to reduce carbon emissions, or with rapid and aggressive emissions reductions.

The choices we make today will determine how often we experience extreme heat in the future. Aggressively cutting US carbon emissions by investing in low-carbon energy sources, energy efficiency, and other solutions, alongside robust global climate action, will help limit future warming and the frequency of days with extreme heat.

**Annual Days of Extreme Heat Per Year in Florida's 12th District**

<table>
<thead>
<tr>
<th>Heat Index</th>
<th>Historical</th>
<th>By midcentury</th>
<th>By late century</th>
<th>By late century, if we limit warming to 2°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>90°F</td>
<td>141 days</td>
<td>178 days</td>
<td>195 days</td>
<td>174 days</td>
</tr>
<tr>
<td>100°F</td>
<td>33 days</td>
<td>123 days</td>
<td>156 days</td>
<td>106 days</td>
</tr>
<tr>
<td>105°F</td>
<td>4 days</td>
<td>81 days</td>
<td>128 days</td>
<td>56 days</td>
</tr>
</tbody>
</table>

With no action to reduce global heat-trapping emissions, the average frequency of extreme heat in this district would rise as shown above. Taking rapid action to reduce emissions and cap future global warming at 2°C (3.6°F) would limit the increase in extreme heat days. For more information and detailed data, visit www.ucsusa.org/killer-heat.
Air Pollution

Higher Temperatures Make Pollution Worse.

Pollution Affects Air Quality:

- lung health (asthma, COPD)
- heart health (heart attacks, stroke)
- Cancer
More CO$_2$ = More Pollen

Climate Change Increases Grass Pollen Production

Grains of Pollen (millions)

<table>
<thead>
<tr>
<th>Year</th>
<th>CO$_2$ Level (PPM)</th>
<th>Pollen (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>400 PPM</td>
<td></td>
</tr>
<tr>
<td>2060</td>
<td>600 PPM</td>
<td></td>
</tr>
<tr>
<td>2085</td>
<td>800 PPM</td>
<td></td>
</tr>
</tbody>
</table>

Source: Albertine et al. 2014

Climate CO2 Central
Climate Change & Health: Changes in Vector Ecology

Causes of increased vector-borne diseases:

- Rising global temperatures
- Increased rainfall, flooding, and humidity,
- Human migration - no immunity to new diseases
Florida Mosquito-borne and tickborne disease cases, 2004-2016


Lyme disease bullseye rash
Temperature and precipitation changes affect water quantity and quality.

Runoff from more frequent and severe rain events will increase the number of toxins and pathogens in recreational waters and drinking water sources.

Waterborne diseases are caused by pathogens, such as bacteria, viruses, and protozoa.

Blue Green Algae & Red Tide
Fatalities

- Hurricane storm surges and wind
- Forest fires
- Flooding
- Mudslides
- Secondary deaths
  - Infections
  - Lack of access to necessary medications such as insulin or cardiac meds
  - Failure of backup generators for oxygen, etc.
Mental Health Impacts

Victims of Hurricane Katrina had high rates of PTSD up to two years later (National Center for PTSD, 2018). Floods and tornadoes can similarly affect Minnesotans.
Increased frequency and severity of extreme weather events can lead to:

stress, depression, anxiety, PTSD, and suicidal thoughts

More Vulnerable: Children, older adults, pregnant and postpartum women, people with mental illnesses, the poor, homeless people, first responders, and people who rely on the environment for their livelihood
Clarifying Questions About HEALTH?
PRESENTERS:
HOUSING FACTORS AND VULNERABILITY

ANDREA GALINSKI
Assistant Scholar
SHIMBERG CENTER FOR HOUSING STUDIES
UNIVERSITY OF FLORIDA & REACH TEAM

GLADYS COOK
Disaster Resilience and Recovery Director
FLORIDA HOUSING COALITION & REACH TEAM
“Housing is a necessity, a choice, a financial investment, and a human right. For many communities, their housing supply, affordability, and quality are the invisible infrastructure that supports growth, vitality, sustainability, inclusion and resilience. Solutions to housing issues must be examined within the overall community economic ecosystem so that underlying interdependent factors affecting housing choice, availability, and affordability are also addressed.”


Housing Terms

Affordability
● Generally housing costs, including utilities, that do not exceed 30% of the gross household income

Area Median Income
● Median annual gross household income (pretax) for a metropolitan area, subarea of a metropolitan area, or non-metropolitan county published annually by HUD by size of household

Cost Burden
● Household pays >30% of its gross income on housing costs

Severe Cost Burden
● Household pays >50% of its gross income on housing costs
## Housing Demand Based on Income and Tenure

**Tampa-St. Petersburg-Clearwater MSA**  
**FY2020- example: 4- person household $69,200**

<table>
<thead>
<tr>
<th>Income Level</th>
<th>Annual Income</th>
<th>Maximum Monthly Rent (30%)</th>
<th>3 BR FMR (MSA)</th>
<th>Maximum Monthly PITI</th>
</tr>
</thead>
<tbody>
<tr>
<td>30% AMI</td>
<td>$21,090</td>
<td>$527</td>
<td>$548</td>
<td>$332</td>
</tr>
<tr>
<td>Extremely Low Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50% AMI</td>
<td>$35,150</td>
<td>$879</td>
<td>$914</td>
<td>$657</td>
</tr>
<tr>
<td>Low Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80% AMI</td>
<td>$56,240</td>
<td>$1,406</td>
<td>$1,463</td>
<td>$1,187</td>
</tr>
<tr>
<td>Moderate Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>140% AMI</td>
<td>$98,420</td>
<td>$2,460</td>
<td>$2,560</td>
<td>$2,252</td>
</tr>
<tr>
<td>Workforce Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Supply of Affordable and Available Housing

Sources: Estimates and projects by UF Shimberg Center for Housing Studies, based on U.S. HUD, Comprehensive Housing Affordability Strategy (CHAS) dataset and population projections by the Bureau of Economic and Business Research, UF.
Sources: Estimates and projects by Shimberg Center for Housing Studies, based on U.S. Department of Housing and Urban Development, Comprehensive Housing Affordability Strategy (CHAS) dataset and population projects by the Bureau of Economic and Business Research, University of Florida.
General Housing Issues - Statewide

- Net increase 2000-2017: 674,210 rental units
- Units greater than $1,000 increased by 718,166
- Units at or below $1,000 decreased by 43,956
- According to the NLIHC, Florida has a unit deficit of: (400,033) at or below 30% AMI (576,339) at or below 50% AMI
- Housing losses/damage due to disasters (est 700,000 homes 2016-2020)
- 27,711 Estimated Number of Persons Experiencing Homelessness (2020 FL Point In Time Count)

Source: University of Florida Shimberg Center for Housing Studies. 2019 Rental Market Study.
Age of Homes in Tampa Bay

Total # of Homes: 1,730,378
Number and Percentage Share of Mobile Homes in Tampa Bay

Total Number of MH in Tampa Bay 197,778
The Impact of Disasters on Housing

Major Hurricanes Impacting Florida:
2016 (Matthew & Hermine), 2017 (Irma), 2018 (Michael), 2020 (Sally)

- Low income and vulnerable populations disproportionately impacted
- Prolonged duration in shelters and temporary housing - displacement can be permanent
- Damage assessment irregularities
- Prolonged timeframe to repair and rebuild
- Economy and schools can’t return to normal until housing is repaired and re-occupied
- Lack of funding sources complicated by “administrations” - need for statewide reform of disaster recovery framework
- Housing infrastructure reduced in quality and safety
- Increased awareness of need for resilience - impacts to mobile homes and older units
Housing Resilience: FHC’s Seven Mitigation Principles

1. Home hardening, elevation, rebuilding
2. Buyout and relocation
3. Mobile Home replacements, tie-downs, and enhancements
4. Priority for LMI and vulnerable populations
5. Incentives and Regulations
6. Home Insurance: Wind and Flood
7. Community engagement and competence

Revisioning Recovery website:
www.workingfilms.org/revisioning-recovery

REVISIONING RECOVERY FILMS
https://vimeo.com/43229446 Password: revisioning
Where is Assisted Housing in the TBRPC Area?

What is Assisted Housing?
The UF Shimberg Center’s assisted multi-family housing inventory (AMHI) includes:
- Publicly owned housing
- Private housing that is publicly subsidized
- Programs- HUD, Rural Development, Tax Credits, Public Housing
- Includes federal, state, and local assisted properties
We could look at assisted multi-family housing (AHMI) in the 100-year floodplain…

…but this may not tell the whole story.
Looking Beyond the 100-year Floodplain: How Can We Better Understand Coastal Flood Hazards?

UF Shimberg Center has quantified current and future flood hazards statewide through several indicators.

Scoring is based on a simple additive (geographic presence/absence) analysis:

- Each time a parcel is within a hazard zone it is assigned a value of (1) for that hazard
- Overall exposure is a sum of values:
  - **None** = 0 indicators
  - **Low** = 1-3 indicators
  - **Medium** = 4-6 indicators
  - **High** = 7-8 indicators
Where is Assisted Housing Exposed to Coastal Flooding?

- **Low** exposure (1-3 indicators)
Where is Assisted Housing Exposed to Coastal Flooding?

- **Medium** exposure (4-6 indicators)
Where is Assisted Housing Exposed to Coastal Flooding?

- **High** exposure (6-8 indicators)
Where is Assisted Housing Less Exposed to Coastal Flooding?

- **None** (0 indicators)
Where is Assisted Housing Exposed to Coastal Flooding?

Combined Flood Hazard Indicators:

- **None** exposure (0 indicators)
- **Low** exposure (1-3 indicators)
- **Medium** exposure (4-6 indicators)
- **High** exposure (6-8 indicators)
What Types of Flood Hazards do Assisted Housing Developments Face?

Proportion Summed by County and Hazard Category:

- Sea level rise 2030
- Sea level rise 2050
- High tide flooding
- Storm surge
- Floodplain
Who Lives in TBRPC Assisted Housing Exposed to Coastal Flooding?

Flood Exposure & Social Vulnerability

- High Flooding & High SOVI
- High Flooding & Medium SOVI
- Medium Flooding & High SOVI
- Medium Flooding & High SOVI
- Medium Flooding & Low SOVI
- Low Flooding & High SOVI
- Low Exposure & Medium SOVI
- Low Exposure & Low SOVI
### Which Public Funding Programs Include Properties/Units Exposed to Coastal Flooding?

Over **50% of the region’s approximately 25,000 assisted housing units** are exposed to coastal flood hazards.

<table>
<thead>
<tr>
<th>Primary Funding Source</th>
<th>Units At Risk</th>
<th>Units Not At Risk</th>
<th>Total Units</th>
<th>% Units At Risk</th>
<th>% Units Not At Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>FHFC</td>
<td>15,944</td>
<td>10,442</td>
<td>26,386</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>HUD</td>
<td>4,854</td>
<td>3,703</td>
<td>8,557</td>
<td>57%</td>
<td>43%</td>
</tr>
<tr>
<td>LFHA</td>
<td>1,520</td>
<td>533</td>
<td>2,053</td>
<td>74%</td>
<td>26%</td>
</tr>
<tr>
<td>Public Housing</td>
<td>2,447</td>
<td>2,365</td>
<td>4,812</td>
<td>51%</td>
<td>49%</td>
</tr>
<tr>
<td>RD</td>
<td>867</td>
<td>1,348</td>
<td>2,215</td>
<td>39%</td>
<td>61%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>25,632</strong></td>
<td><strong>18,391</strong></td>
<td><strong>44,023</strong></td>
<td><strong>58%</strong></td>
<td><strong>42%</strong></td>
</tr>
<tr>
<td>Tenant Characteristics</td>
<td>Average Income</td>
<td>% of Households w/ Children</td>
<td>% of Household w/ Elders (62+)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>----------------</td>
<td>----------------------------</td>
<td>-------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMHI, including Public Housing</td>
<td>$21,696</td>
<td>42%</td>
<td>35%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HUD, Subsidized Multifamily</td>
<td>$16,605</td>
<td>26%</td>
<td>56%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FHFC portfolio including HUD/RD Rental Assistance</td>
<td>$23,838</td>
<td>48%</td>
<td>27%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Identify Vulnerabilities + Resilience Opportunities

**Who lives in affordable housing exposed to coastal flooding?**

<table>
<thead>
<tr>
<th>Primary Funding</th>
<th>Total Units</th>
<th>% Units At Risk</th>
<th>% Units Not At Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>FHFC</td>
<td>26,386</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>44,023</strong></td>
<td><strong>58%</strong></td>
<td><strong>42%</strong></td>
</tr>
</tbody>
</table>

**Which public funding programs are exposed to coastal flooding?**

**Where is assisted and “naturally occurring” affordable housing exposed to coastal flooding?**

---

**Legend**

- **Number of Units/Tract**
  - 0
  - 1 - 50
  - 51 - 100
  - 101 - 500
  - 501 - 1,000
  - 1,001 - 1,500
  - 1,501 - 2,000

### Identify Vulnerabilities + Resilience Opportunities

**Who lives in affordable housing exposed to coastal flooding?**
Objective: To better understand the potential impacts of flooding upon particularly vulnerable populations and limited supply of affordable housing across Florida.

- Browser-based tool for display and analysis of statewide housing susceptible to flood hazards.
- Housing characteristics can be queried, summarized, visualized and downloaded for further analysis on the desktop.

REACH project will refine statewide tool to meet the needs of the Tampa Bay region.
- Example: including regionally standardized flood hazard datasets

Funded through JP Morgan Chase Grant (2018-2020)
Clarifying Questions About Housing?
1. ALICE represents between 28-39 percent of each County's population. There are not enough affordable apartments or homes for ALICE.

2. Changing climate and extreme weather will have the greatest health impacts on ALICE (poor, elderly, youth) and outdoor workers.

3. Air pollution will likely increase. Extreme heat combined with poor air quality will increase respiratory illness, asthma, allergies and premature deaths.

4. Health preparedness and planning is not yet integrated into resilience planning or policy.

5. Extreme storms and flood inundation will impact homes, disrupt businesses and jobs, lives, financially impact residents, and cause mental and physical health impacts.

6. Quality, attainable housing is the foundation of community resilience. Some # of public and naturally occurring housing stock is at risk to flooding -- current housing planning does not account for loss.
Breakouts by Housing/Neighborhood or Health.

Develop Aspirational Vision Statements and Goals.

Participants meet and briefly report out.

Work on goals and develop actions, Scorecard.
BREAKOUT #1

INSTRUCTIONS

1) A link to a Google Sheet will be posted in chat. Click the link before joining your breakout room.

2) Click “join breakout room” when prompted

3) Appoint a notetaker to record the group discussion.

4) Work through as much of Discussions 1 - 3 as you can.

5) Meeting moderators will join breakout rooms for assistance.

6) We will close the breakout room after 45 minutes or at 11:15, whichever comes sooner.
1) Name one goal you are excited about
INSTRUCTIONS
1) This discussion will use SAME Google Sheet and Tab as your previous discussion.
2) Click “join breakout room” when prompted
3) Have the breakout group appoint a notetaker to record the group discussion.
4) Continue to work on goals, actions as needed and begin working on Discussion 4 if time permits.
5) We will close the breakout room at 1:15.
NEXT STEPS

FUTURE WORKSHOPS

We anticipate that additional data needs will be identified in the subsequent chapter workshops.

ITERATIVE CHAPTER DEVELOPMENT

The chapter will be revisited to further develop data needs as they come up in the process of developing the later chapters. As such we will also need to revisit the action list and scorecard for this chapter.
Meeting dates, agendas, PPTs, and summaries at: tbrpc.org/resiliencyplan

NEXT ZOOM meeting:
Friday Dec. 11, 9:00 - 11:30
Discussion of equity metrics and resilience.