

## **General notes from May 7<sup>th</sup> and 8<sup>th</sup> workshops in Brevard and Volusia Counties for the Regional Resiliency Action Plan**

### **Health**

1. After Hurricane Irma, what was the biggest challenge or gap you noticed in the health sector? What is needed to fill that gap or rectify the issue?
2. As the climate changes, what are the emerging health risks or concerns that communities and organizations need to start planning for? Is there support for assessing these areas and growing programs?
3. What is the biggest health priority that can be tackled now to create long term lasting impacts in the community in terms of resilience?
4. What is the greatest need for the health sector in preparing for stressors and shocks in the community/region?

### Volusia Discussion

1. Irma Issues
  - ALS – generator issues
  - Elderly issues in general (heat, etc.)
  - Sheltering – long term (when schools return to sessions)
  - Socio-economic impacts (Poverty, Elderly, Dialysis)
  - DIY- Afterward – need to be told it isn't a good idea (print + signs)
  - Medical Infrastructure – in lesser economic areas, and reliance on hospitals
  - Carbon Dioxide Monitors – low income areas, education issue
  - Communication – messaging, signage, how to get the message
  - Transportation to Dialysis Centers – Staffing, communicating change in locations
  - Mobile Homes – low income
  - Long-term funding for lower income repairs
  - Opening shelters – open as needed rather than all at once, specify animal friendly
  - Housing needed for responders
2. Emerging Health Risk
  - Contamination of water supply
  - Heat-related issues
  - Mosquito-borne illnesses
  - Food-borne illnesses
  - Sewer lines/sea level
  - Infringing development into hazard zones
  - City/County - Lift Stations, Generators, Outfall – Stormwater
  - A/C – high risk areas relating to heat
  - Secure shelters + comfort
  - Transportation – EMS (Public Transport/Dialysis)
  - Generators (carbon monoxide)
3. Low Hanging Fruit
  - Communication for health-related issues

- Messaging in Spanish
- Infrastructure in growth restrictions – in high hazard zones, multiple issues Tax Disincentives
- Supplies – medical, general
- Training – cross/training
- Planned exercises for practice – E.M. “Getting in the Habit”
- Planning ahead – generators on trucks, sewers, lift stations, enforcement

#### 4. Greatest Needs in Health Sector

- Prepared – shelter-in-place – education, having meds on hand, obliviousness
- Special Needs – Shelters/Dialysis and Staffing
- Education and Communication (community meetings),
- Hotel education for guests/staff
- Tourists not knowing – outreach to hotels
- Generators – lodging facilities/special needs
- Training for disaster Response
- Consolidation of shelters/after – in prep for schools re-opening
- Designate long term shelters, returning home
- Location of Social Services
- Alternative Communications – Social Media
- Reverse 911 – already in good place
- Medical surge plans are in a good place

### Group Priorities and Action Items

#### Priority 1 – Communicate with Residents

##### Actions

Communicate dangers of do-it-yourself tasks and generators with residents

Ensure that portions of the population who only speak Spanish have storm-related information

#### Priority 2 – Protect residents by disallowing development in high-risk areas

##### Actions

Pass legislation that increases property taxes in high hazard zones

Restrain from providing public infrastructure to new developments built in hazard zones

Change future land use and zoning codes in vulnerable areas

### Brevard health Discussion

#### 1. Issues:

Lack of Communication between agencies - specific functions for shelters

Boil Water Notes – couldn’t find source, confusion (communication)

Generators – Safety PSA's  
AHCA, Assisted Living Facilities  
Water Source? Where's the line?  
Educating the public  
Multiple agencies – distinction between

Fill the Gap:

Pre-storm meetings  
Public service announcements/media  
Social media  
One Stop for this: APP for hurricane notices/alerts; EOC Alerts; Central Information – EOC  
Twitter?  
Long term impact on low-income individuals (Example: mobile home roofing)

2. Flooding/water supply  
Erosion safety, coastal population  
Sewage contamination  
Lagoon algae blooms and water supply and externalities  
Lack of A/C – heatstroke  
Location/Re-location Housing – displaced population  
Shelters – after schools return (transition)  
Standing water and mosquito illnesses

Support:

Medical surge plans  
Hospitals in flood plains – FMP/LMS  
Vulnerability Assessments

3. Education  
Communication  
Training/Exercises – regional  
Multi-lingual (Creole/Spanish)  
Multi-generation messaging  
Medical supplies – shelters – Cots/resources  
Continuing – EOC – Primary portal  
Sign-up for the Elderly, special needs

4. Responding to Stressors and Shocks

Stressors:

Better infrastructure  
Large Scale – land use issues  
Proper Preparation  
Minimalizing externalities (Example: Port sewage release)  
Communication  
Preparedness

Utilities and flooding  
Training – ongoing, Progress over time  
Large sums of homes in hazard zone

Shocks:

Communication  
Tending to unique and/or immediate health needs for most – vulnerable (dialysis, etc.)  
Preparedness and exercises  
Interlocal agreements – debris removal, etc.  
Intergovernmental coordination  
Short term - Cone Uncertainty

Group Priorities and Action Items

Priority 1 – Communicate Pertinent Information with Residents

Actions

Ensure that a “primary” social media account relays all disaster-related information  
Ensure that County E.M. website contain information on shelters, openings/closings  
Ensure that public shelter information includes specific medical supply and other resource information. Vulnerable populations should know which shelter to report to.  
Ensure that County staff is prepared through emergency exercises

Priority 2 – Ensure that the water supply and stormwater infrastructure are protected

Actions

TMDL reductions for the Indian River Lagoon (Years 1-5)  
Determine locations of vulnerable infrastructure (Years 1-2)  
Raise or mitigate stormwater outfall infrastructure (Years 3-5)  
Protect sources of potable water from sewage and natural hazard infringement (Years 3-5)

## **Gray and Green Infrastructure**

- *When considering Hurricane Irma, what was the biggest challenge in terms of infrastructure resilience?*
- *How is infrastructure being prioritized for upgrading/funding? Is this still the appropriate way to prioritize when considering resilience? What recommendations or processes need to be altered and how?*
- *What is the key to further the concept of using green infrastructure as a priority over grey infrastructure for flood mitigation purposes?*
- *Green space and natural lands are the first line of defense in some instances. Additionally, as ecosystems change and migrate, undeveloped lands (planned for development) may alter as well. How do we deal with this and the looming development rights?*
- *What opportunities currently exist that can be leveraged to improve infrastructure resilience?*
- *What is considered the most valuable or priority infrastructure for communities? What are strategies or activities that are low hanging fruit needing to be implemented in the next 1-3 years across disciplines? What are barriers to long-term, higher fruit that need to be broken down in the next 1-3 years? How do we break down these barriers?*

## Brevard Discussion

Hurricane Irma challenges –

- Energy/Power Outages
- Pump Station Failures and Issues
- Cocoa Water lines washed out
- Complaints about water coming off conservation lands into development
- Cutting down of old historic oak trees because of concerns of trees fallings
- Lots of areas of flooding (Merritt Island) - Codes need to be updated
- Resilient/Prepared homes vs. Resilient/Prepared outside home – need community preparedness as a whole

Discussion

- Reactive and response -issue
- Focuses on immediate need funding, not long-term
- Cocoa Water Line Failure – Repair
  - Storms impact infrastructure that we don't normally see
  - Inspection of water lines and other utilities after storms
- Consider different approaches when building

- Widening SR 528, causeways – increase or decrease circulation of lagoon
- Checklist of projects and the areas addressed when considering funding priorities
- Upgrading and new technology for sewer and stormwater
- Living docks/oyster reefs and other best practices along the lagoon – multiple benefits
- Conservation lands important – don't become part of the problem
  - What role do they play in resiliency?
  - Green space critical
  - List of conservation lands needs still exist but politically not possible for purchasing currently
  - Need to show economic benefits along with ecosystem services
- Capacity available in sewer plants but cost to hook up is high
- Funding is an issue related to transportation
- Urgent now to do projects and assess because they take time.
- Plans exist where wastewater utility worked with conservation to expand lands (re-open and assess and use)
- Comprise for greater good for greater integration.
- There is a need to understand/educate that we live in a sensitive environment and the importance of the quality of life
- Martin County – tax for infrastructure tied to water quality
- Education on the importance of Green Infrastructure
- Develop Demonstration sites
- Understanding eco-system services = \$ benefits is important especially for developers and elected officials
  - Show ROI and look longer term
  - Look at cost of not using green infrastructure for resiliency mitigation and adaption
  - Look at indirect costs
- Where is infrastructure aging (unexpected costs after disaster) – need better data
- Storms cause lots of failures at once
- Reactive, not proactive
- Old plans, not modified for climate change and resilience
- Not everyone in power buys into climate change
- Need general message of resiliency
- Elected officials respond to voters
- How do we engage voters?
- We are an interplanetary species
- Space program – developing infrastructure to be the leader (eg. Mining asteroids, energy) – Vision
- Make the earth a national park
- How do we keep space industry here – need to be competitive and need the infrastructure to do it.
- Post Disaster Planning – Making decisions to benefit the future (proactive)
- Realistic adaptations
- Plans should complement each other – not hinder or conflict

## Development and Green Infrastructure

- Balance of property rights and resilience – issue; afraid of suing
- Concept of Conscience Capitalism
- EIS, Mitigation of impacts, fees
- How serious are we about conservation? People came here for quality of life
- Dual purpose open space (parks as stormwater management) – natural spaces within the park, stormwater system below the park (cape canaveral)
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## Group Priorities and Action Items

Priority 1 – Post Disaster Recovery Plans – revisit and ensure consistency between and consider incorporation of green/gray infrastructure

### Actions

- Build county plans and coordinate with cities, county, port, other agencies for cohesion and make sure priorities are aligned
- Assess existing plans for obstruction of resilient goals
- Stakeholder engagement
- For big \$ items (landfill, treatment plant) what does that look like down the road 50 years in the service areas
- Assess unintended consequences of decisions
- Develop education plan and engagement – change the culture

Priority 2 – Educate about economic and mitigation benefits of conservation lands

- Creation of a resilient home program (Keep Brevard Beautiful/Lagoon Friendly Lawns) (incentives and certifications, best trees, disaster planning, flood planning)
- Demonstration projects and gardens
- Develop a one pager / fact sheet/infographics of economic benefits and quality of life related to green infrastructure

Priority 3 – Infrastructure for sewage, water, stormwater and address nutrient loading into system

- Create political will to get funding
- Planning/assessments
- Vulnerability assessment for stormwater infrastructure and prioritize
- Create a stormwater inventory
- Develop prioritization and plan

## Discussion

## Hurricane Imra challenges –

- Pre and Post Debris Management – Public were cutting trees, etc. prior to hurricane and caused extra debris to deal with and hazards and blocked drains
- Storm surge and erosion
- Flooding
- Evacuation and access to gas
- Keeping utilities running; need generators for all assets (large facilities, pump and lift stations, major intersections, etc.)
- Staff availability
- Communication Infrastructure (cell service)
- Flooding from clogged drains
- Need early public education on debris management

## Prioritization of Infrastructure

- Alternate evacuation routes – comparing to the TPO priority list for funding
- Too much reliance on grants
- Need local government investment as a priority
- Need top down policy/funding priority
- Cities/Counties should build reserves to be less reliant on FEMA ; FEMA's timeline – State pace for reimbursement. Strain on governments.

## Key to prioritizing green infrastructure over gray

- Facilitating permitting
- Gain more public support for green solutions through education; especially on private property
- Policy and funding
- Education of EVERYONE on cost effectiveness
- Guidance document to nature-based solutions for homeowners and businesses (flood areas, erosion areas, etc.)
- Need to focus on being proactive; government is generally reactive because of the items and priorities on lists and the lack of funding.

## Keeping green space as line of defense despite development pressures

- Incentive-based policies, programs
- Create a transfer of development rights for resiliency (or similar program)
- Mitigation bank program concept for resilient planning (new developments – buy in the program to preserve green space for mitigation/flooding, or other strategies.
- Educate about yard flooding (its ok if planned right)
- Encourage nature-based solutions for new development
- Incorporate resiliency strategies, policies, goals, etc. through comprehensive plan and CIP
- Education for developers, elected officials, agency heads and contractors



## Current opportunities to leverage

- Water management district programs
- NOAA and DEP Coastal Grants
- Invest in the CIP (Capital Improvement Plan) incrementally to avoid a big upfront bill
- Warnings not usually effective
- Internal staff communication and prioritization

## Group Priorities and Action Items

### Priority 1 – Be Proactive across all activities

- Build reserves
- Update City charter or codes to mandate reserve change
- Conduct voter referendum where needed (different jurisdictions may need this)
- Reorganize and reprioritize budget and create line items to better plan for planning and recovery
- Create a checklist for adding a resilient perspective to projects and add it to the prioritization scoring
- Create a resiliency checklist for developers
- Education across all levels

### Priority 2 – Code Changes

- Conduct vulnerability assessment of all property, assets, roads, infrastructure (funding and partners – grants, university, rpc, others)
- Assess LDC/LDRs and comprehensive plans, and other plans (stormwater, transportation, open space, etc.) to update to include resiliency and ensure they are all compatible.
- Educate developers, contractors, public, elected officials about resiliency, issues and strategies as well as economic consequences
- Identify program overlaps (Promise Lands, LMS, CRS, WMD, Stormwater, etc) and identify what is being done that can be used for other planning and advance resiliency

## ***Social Stability, Security & Justice***

1. Looking back to Hurricane Irma response, what was the biggest challenge or gap you noticed in social equity response, if there was one? What is needed to fill that gap or rectify the issue?
2. What is the greatest need for low income communities and the homeless in preparing for stressors and shocks?
3. What programs or agencies already exist that could be utilized to increase educational or financial opportunities for vulnerable low- income communities to help them better prepare for future impacts?
4. What are the strategies or activities that are low hanging fruit needing to be implemented in the next 1-3 years to address social resilience? What are the barriers to long-term, higher fruit that need to be broken down in the next 1-3 years? How do we break them down?

### Volusia Discussion

Homeless population- not a “problem” because services/procedures are in place

Shelter & feeding homeless

Difficulties transitioning homeless/those that lost homes out of shelters

Addressing needs of young homeless families

Identification & Paperwork

Social Services and flooding on Beach Street-

Flooding closed and relocated social services, council on aging, library

affected elderly & Imi persons utilizing social services located on Beach

did not have arranged transport to relocated offices creating a barrier to service

Food Drop points were FEMA driven- often much later reimbursements of losses

Best Practice- Flagler mobilized DRC in local communities in need- over 3 separate weekends- provided assistance for loans/ grants within the community / short term driven (not FEMA driven)

Healthy Volusia- disaster recovery for long term care

DaVita- private dialysis operation with an exemplary plan for preparation and response that should be replicated

Where does personal responsibility lie in a disaster?

Edgewater- LMI – preparation for tides

Mobile Home Parks- transportation for services in place. Those that chose to shelter in place were offered initial transport for evacuation that was not as readily available after event due to response.

Communication of resources needs to happen in a timely fashion for funding purposes.

\*211 for Social Services (United Way) requires updating as it is a clearinghouse.

Reverse \*211 for disaster alert or remote texting

## Vulnerable Populations

People in recovery (Methadone specific) lose accessibility to daily doses. How can we better help them prepare (the rule of thumb of stock up on Meds cannot by law apply to them)

Pre-registration may not be an option as some will not want to register with law/government agency

Mental or Health based app similar to United Way so there is no hesitation

MUST FOCUS efforts on Pre-Planning

## Group Priorities and Action Items

Priority 1- Homeless, special needs, elderly and low income

Actions:

- Prioritize and Utilize IDignity program as a Disaster Preparedness tool. Develop funding mechanism to provide identification and paperwork.
- Identify and develop food pantry collaboration- access funds for development of (regional) food pantry network disaster plan for activation prior to FEMA arrival

Priority 2- Access to services

Actions:

- Explore options for reverse \*211 for consistent social services emergency messaging. (United Way)
- Explore the potential to utilize the \*211 network for use as pre-registration tool for vulnerable populations.
- Discuss, investigate and develop the criteria for setting up mobile post-disaster DRC in affected vulnerable communities.
- Coordinate with transportation services to identify communities/locations with high ridership and compare those locations with flood prone evacuation sites. Plans already in place for evacuation but consider additional transport for services post disaster.
- Utilize existing or develop ONE app for efficient communication of resources- (explore the idea of Virtual Business or expanding county app)

## Brevard Discussion

Flooding in Rental Properties-What if any mitigation is being done by renters and landlords to mitigate against future flooding?

Agencies/Locations tasked with replenishing and or providing crucial supplies were not within proximity of vulnerable communities.

Emergency Operations Center Activation- after EOC "closed" this created a logistical issue for requesting supplies for post disaster affected areas.

Mobile Home Parks- absence of transportation for the shelter in place citizens. Those that had chosen to shelter in place were offered initial transport for evacuation that was not as readily available after event due to all the resources being used for the response effort.

Affordable Housing- unavailability

Assisted Living- establish evacuation plans – some had a complete lack of proper pre-planning

Lack of resources to cover Insurance premium costs- unaffordable for lower and fixed income residents

Cascading effect from lack of resources on vulnerable communities impacts mitigation efforts post disaster.

Contractors/developers- pre-identified

Pre-FIRM homes- what can be done to elevate these homes to help with flooding?

Elected officials- educate and inform to better address the common issues

Established Council- has an inter-local agreement in place to leverage funds

Shelters- Important paperwork, Identification Cards, passports, birth certificates and other required documentation was lost or damaged from the storm making it difficult to gain access to shelters

Disaster Recovery- identified the need to seek out grants which focus more on resilience and mitigation for lower income housing / vulnerable communities.

Identify a best communication method to reach citizens (weather radios, apps or local news stations)

Communication between employer and employee on when/how to get back to work quickly.

Transportation network back online to get people to and from jobs.

Plans- Continuity of Operations Plans for facilities to be in-place and reviewed by Emergency Management

Policies- to address the affordable housing gap

Communities with aging infrastructure

Voluntary Organizations Active in Disaster (VOAD) and Community Organizations Active in Disaster (COAD) - identified the need for their continued presence

### Group Priorities and Action Items

*Priority 1:* Affordable Housing

Actions: HLMP- Hardening facilities

Plans and policies need to be in place to encourage and develop future affordable housing choices

Refocus funding

Lack of “extra money” to purchase resources for fixed income and “working poor” citizens

Priority 2: Special Needs Shelter/ Senior Shelters

Actions: Transportation to and from shelters. Take into factor post storm and how tying up the transit system limits availability to those who rely on the services to get to and from work.

Identify ways to encourage residents that are determined not to evacuate by passing out toe tags, collecting wills and next of kin information

Utilize pre-registration to identify shelters for special needs and seniors within the community

Priority 3: Communication

Actions: send out mailers (outreach) and preregistration information

Identify a central source for information to limit confusion of multiple messages being obscured when the messages are coming from multiple outlets.

Increase workplace communication post disaster. When/how/where's of getting back to the job. Especially important for low wage workers/ working poor.

Priority 4: Infrastructure

Action:

Explore retrofitting opportunities

## **LEADERSHIP GROUP**

### *Focus area/questions:*

- *What is needed for a sustainable look at resilience and implementation of adaptation strategies?*
- *Why is it difficult to engage and educate elected officials for long-term resilience leadership and planning? What are the solutions to fix this?*
- *What role should the public have in the leadership of resiliency?*
- *Who should be responsible for moving forward resilience locally and regionally?*
- *What are your thoughts on developing a regional compact (similar to the South Florida Climate Compact) to help formalize resilience integration. What would it look like?*
- *What are best practices in truly engaging the public of all ages in the discussion of resiliency?*

### Brevard

Interconnectivity of the region; collaboration; county is segmented; water quality in the river – storm water; flooding but not due to sea level rise, it's an as event reaction

Shock and stressor affects the whole state long-term; but the effects are different demographically

Politics does not lend itself to long-term planning

Derelict vessels – debris removal – funding ran out quickly – FDEM gave contract to UCSG – was very political

No pressure to think about resiliency; for leadership to get on board they need personal stories to make it relatable. Come up with list of local issues which might spur urgency for the public.

Prepare for massive political shocks; municipalities to take out insurance on property tax revenue to prepare for future shocks – insurance companies will then do the work needed to prepare.

- Per the political shock, local officials should be briefed on the potential impacts of shocks like hurricanes, flooding, hazardous substance contamination, so they will be more likely to want to deal with the issues proactively.

Education and outreach of the public because if the public demand something, leadership will listen.

Flooding, sewer, storm water

4 C's: Communication, collaboration, coordination, cooperation.

- School of Resiliency for both the Public and government officials. Outreach can't be a one-time thing. With the high turn over of residents in the community there should be multiple opportunities a year to learn about resiliency and what it means for each local community so that residents identify with and support resiliency projects.

- The group expressed frustration with turnover of government officials and how the lack of communication for resiliency strategies and efforts can frustrate the effectiveness of the policy in the first place. If the resiliency plan is to be a five-year work schedule then during that time then staff needs to be briefed repeatedly on those efforts, goals, and projects so they realize efforts are ongoing and progress is being made.
- The group expressed interest in having quarterly resiliency summits where local government department heads, city commissioners, and county commissioners would have an opportunity to collaborate and learn about implementation of the Plan. Officials could be encouraged to attend two of the four meetings. Bringing together different levels of government officials presents the opportunity for collaboration, the group expressed much of local government happens in vacuums or silos where information is not being shared. All departments and officials should understand their role in resiliency planning.
- Resiliency summits would transition the local government culture from reactive to proactive. A meeting before Hurricane Season would have a different agenda than a meeting held before the season starts. This is important because different agencies have access to certain resources another agency could be in need of. Bringing stakeholders to the table multiple times a year should increase the flow of information and opportunities to collaborate.
- For newly elected officials they should have their own “Intro” workshop as a first time briefing for the ongoing efforts. The group expressed there is a need for this since elected officials may not digest ongoing resiliency efforts or see them as important since they were created before their time.

Government takes so long for action items to happen: succession planning. This item refers to benchmark goals for the Plan.

Lack of communication; long-term planning

**Priorities:**

Collaboration – starting on the local level

Leadership education

Succession planning

**Action Items:**

Identify vulnerable priorities

Educate leadership on potential political impacts – ongoing quarterly;

New leadership orientation

Raise awareness of citizens

Insure municipal guaranteed property tax revenue: this technique was used by the City of Miami Beach.

Interplanetary species – create resiliency on our own planet before we explore other planets

- The group suggested the Plan incorporate the regions effort to become an interplanetary species. For so long the “Space Coast” has been focused on life on another planet but the group thought the launch site, aka the Space Coast should be a region where sustainability

and resiliency planning is prioritized. If such planning is used for interplanetary efforts than the Space Coast should be a source itself.

### Volusia

Assessment – assess the problem: public input is part of assessment; what do they interpret as their needs

Leadership – government as a whole; chain of command; as a city look to county EM; as a region look to RPC; look at other councils

During disasters, everyone is engaged. During off season, everyone handles mitigation and planning/preparedness separately – based on budgets and input

Proactive – prioritizing costs

Quick fix in engaging elected officials; Term limits; cost;

Depends on commission or council you have at the time; won't see end product; don't necessarily see the final product based on their decisions now

Private sector doesn't want to wait for the government – willing to take proactive measures

Public role – gets frustrated and then demand change – reactive not proactive

Buy in from everyone – funding – it needs to start locally; collaboration locally

### THREE C's

Communication, Commitment, Compromise

Trust is the bottom line – consequences are low for low hanging fruit; building on trust pillars

Education – need for instant gratification,

Trust between agencies – trust between public and government

Communist style – authoritarian model (LOL)

Coastal Community Resiliency Campaign (yearlong) (NSB)

Need a way for positive PR

Reminding everyone what the end goal is (including leadership)

### PRIORITIES:

- Leadership roadblocks:
  - Costs/budgets
  - Political agendas



- Term limits
- Lobbyists (local and legislative)
- Education (lack of)
- Collaboration:
  - Information sharing regionally
  - Filter down to local level, then back up
- Education:
  - Need for instant gratification
  - Naysayers – the outspoken few who stand out rather than the ones who support
  - Reminding everyone what the end goal is (public and government leaders)

#### ACTION ITEMS:

- Coastal Community Resiliency Campaign (yearlong) (NSB)
- Need a way for positive PR instead of the few naysayers and news reports
- Reminding everyone what the end goal is (including leadership)
- Build trust:
  - Between government agencies
  - Between public and the government agencies

### ***Local Fiscal Perspective***

1. What was the biggest financial challenge in dealing with Hurricane Irma? What is needed to fill that gap or rectify the issue?
2. In looking at future adaptation strategies and needs, what are some funding resources, avenues, or mechanisms that local governments may consider for implementation? What would be the biggest drawback to moving the forward?
3. Are local jurisdictions considering economic loss or impacts to loss of infrastructure or tax base due to short and long-term stressors and shocks? If so, how are they thinking about these losses or impacts? If not, what is needed to get that buy-in to understand this issue?
4. What would you consider the biggest financial vulnerability in the county/region as it relates to climate stressors?
5. Has there been discussion in planning projects and future economic conditions concerning adaptation costs over a long-term period.

### ***Brevard GROUP 1***

### **Discussion**

#### Biggest Financial Challenges –

Cost of evacuating

Recovery

Beach restoration, debris removal, FEMA reimbursement process, high deductibles

Post-Evacuation process

Lack of roofers

Inflation of repair resources

Debris hauling

#### Funding Resources Drawbacks

Forced to spend money on-hand to access state SHIP pool

HUD Grants

Need for pollution education

Long-term solutions

Indiatlantic – No Term Limits

#### Jurisdictions Considering Economic Loss or Impacts

Out-dated infrastructure plan

Lack of confidence in global warming data

Indiatlantic- small community, lack of objective news in circulation

Coordination of League of Women Voters

### Financial Vulnerability

Low-income families cannot afford repairs

Landlords selling homes

Service workers / Civil engineers live paycheck to paycheck

Damage and disrepair leads to poor mental health

Pre-plan with financing

### Group Priorities and Action Items

Priority 1 – Education

Action Plan

Priority 1 – Financing

Action Plan

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*Brevard GROUP 2*

### Discussion

#### Infrastructure

Water-source for 200k people was damaged

Lack of power/electricity for weeks

Derelict boats and lagoon cleanup

Sand shortage / Coquina Rock

The lagoon is the economic foundation / food source/ tourism/ weather barrier

#### Local Attitude

Resistant to change/adapt to climate change

Difficult to get all commissioners etc involved

## Discussion

### *Volusia Group 1*

New Smyrna Beach –

Over-time for emergency workers

Rainy Day Fund

½ cent sales tax, Federal Grant Money

Climate change fund

Raising Streets, increasing drainage capacity

Islesboro Community - \$12 million project budget, raising roads

Halifax Flooding vs Ocean Flooding

Two largest economic drivers: tourism, healthcare

Education –

12-month resiliency program - \$50,000 budget

Direct Input from local communities via survey

April was Social Equity month, May is Public Safety

Large Town Hall Meetings with 200~ turnout

### Group Priorities and Action Items

Priority 1 - Educate

Actions - Hold town halls in communities that will be affected by climate change and raise awareness

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### *Volusia GROUP 2*

## Discussion

FEMA Funding –

FEMA reimbursement very delayed, in some cases by a year

FEMA paperwork is difficult and time consuming

FEMA's changing of procedures was a problem

## Local Funding –

Enough \$\$\$\$ in reserves is vital

Increase reserves, although money allocation can complicate budget

Reserve building vs capital improvement project

Tax base building through annexation is not always the answer

## Local Attitudes –

Holly Hill is not concerned with sea-level rise

Edgewater has riverside

Repercussions for permitting/not permitting

Loss of tax base

Drainage is vital infrastructure

Aging infrastructure causes stormwater invasion

## Group Priorities and Action Items

### Priority 1 – Education

Action Item – Educate local officials about dangers of sea-level rise.

### Priority 2 – Planning

Action Item – Grow reserves in case of FEMA issues, develop drainage infrastructure in areas of need

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## ***Leadership and Workforce Combined Questions: Brevard***

- In terms of workforce training, what opportunities exist or are lacking to train or recruit workforce for new resilient sectors?
- What is the biggest priority for the Workforce to prepare for and recover from shocks and stressors?
- What infrastructure is most crucial for workforce resiliency?
- What opportunities exist or are needed to increase educational or financial opportunities for vulnerable low-income communities to help them better prepare for future impacts?
- How are industries changing to incorporate emerging and innovative technologies to create a more resilient business sector? Follow up – How is the workforce adapting to train for these new technologies and how can we better reach low-income communities to build this workforce?
- Are local jurisdictions and private sectors considering and working together to address the economic impact due to short and long-term stressors and shocks? Follow-up – Why is there a disconnect and what is needed to get that buy-in to understand this issue?
- Who should be responsible for implementing economic resilience locally and regionally and what would a regional resilience group look like and how could it function?

### **Discussion Group 1**

#### Financial Challenges

Construction, power restoration, debris cleanup

Waste management confusion

Whats okay to throw away?

Docket: increase rates – energy commission

Water more important than power

Communication technology is vital infrastructure that can be hardened

#### Local Attitude

Prioritize economic development in local government

Public/private partnerships

Competitive wages for lineworkers

Destigmatize voc-ed

#### Economic

Impact funding for services / utility

Municipality responsible for maintaining infrastructure

Local business = community feel

Transportation, gas, and debris-free roads important for workforce bounceback

Safety Education

Port condition critical for resource flow

528 Highway clear-up

Cross-training individuals for more efficient reaction

### Group Priorities and Action Items

Priorities – Expanding awareness of skilled worker opportunities and develop aggressive vocational/apprenticeship programs and partnerships

Action Items- Contact businesses HR department to tailor programs, understanding where job demand is, destigmatize vocational programs and skilled trades, new trade category “solar-tech”.

### **Discussion Group 2**

Financial Challenges

Economic resilience varies city-by-city

Private sector should be aware of economic impact

Do they have plans in place?

Chambers and EDC

Business resilience program

Workforce

Stress the importance of planning for the inevitable

Service industry is vulnerable to shocks/stresses

Education businesses on programs that can assist their low-income employees

Access to funding/finances

Use local gov as access point for non-gov entities

Vocation program importance

Certifications

Childcare programs

Job training programs for students

Solar facility- adult educ. cluster

### Group Priorities and Action Items

Priorities – Address vulnerabilities of infrastructure

Actions – Asset management plan, develop standard level of accountability, coordination between agencies to upgrade, budget line-items, building reserves

### **Business Resiliency & Tourism Questions- due to consolidation of sections, highlighted questions were focused on but facilitators attempted to guide conversation to cover topic area.**

- Business Resiliency: What are the priorities for business when dealing with shocks like Hurricane Irma or flooding? Follow – up: What are the gaps or hindrances to meeting these priorities? Do small businesses have access and capacity to engage resources needed to weather shocks & stresses?
- Business Resiliency: What is most crucial for business recovery and response? What is most needed for businesses to recover and respond most efficiently and effectively?
- Business Resiliency: In terms of workforce training, what opportunities exist or are lacking to train or recruit workforce for new resilient sectors?
- Business Resiliency: What role does the business sector play in socio-economic resilience? Follow up: What are the gaps for businesses in playing this role?
- Business Resiliency: Does your local jurisdiction work with small businesses on Continuity of Operations Planning?
- Tourism: What tourism industry has the greatest vulnerability in the region as it relates to shocks and stressors?
- Tourism: What was the biggest challenge in dealing with Hurricane Irma? What is needed to fill the gap or rectify the issue?
- Tourism: How is the Tourism industry preparing for future shocks and stressors?
- Tourism: What is the biggest priority for the tourism industry to prepare for and recover from shocks and stressors? Follow up: What are the greatest needs for the tourism industry to consider when addressing long term resiliency? How should this need and priority be addressed?
- Tourism: What is the biggest priority for the tourism workforce to prepare for and recover from shocks and stressors? Follow up: What is the barrier to this priority and how do we rectify it?

### Discussion

The tourism industry is preparing in a number of ways for shocks and stressors

- Beach renourishment programs ensure that the beaches stay in good shape and can take a hit. A tourism tax funds this effort. Beach renourishment projects as well as focus on



cleaning up the lagoon were a direct response to “stressors” on local (tourism partly) economy.

- A diversified economy will be able to “bounce back” from disasters more effectively. The County learned this lesson from the dilution of the space industry.
- Outreach to hotels before storms is critical. Their guests must be informed of what to do (and what not to do).
- Hotels must set aside “contingency rooms” for non-local workers or local-but-displaced workers who will help the community bounce back (light pole workers, debris removal workers, etc.)

#### Priorities for businesses in recovering to acute shocks

- Getting workers back to work as quickly as possible in order to keep the money coming in
- Getting roadways and utilities back to a functional level (including internet)
- Ensuring that freezers with valuable goods remain on separate power sources
- Supply chain preplanning for resilience; fuel, trucks occupied by emergency work
- Ensuring that schools that double as shelters open in good time after a hazard event.
- Facilitating power to elderly homes/ critical facilities
- Making sure that small businesses are back in business as soon as possible. These businesses are more vulnerable to disasters and often close up for good after the event.
- Re-opening boat ramps, beaches and other eco-tourism sites
- Reviewing evacuation plans made by public officials and finding improvements in messaging to tourists.
- Businesses reviewing their internal contingency plans
- Businesses making sure that they are reimbursed by FEMA
- Businesses communicating to the public that they have re-opened
- Soft Infrastructure issues- childcare, eldercare, schools reopening.
- COOP Plan development to include data protection and management.

#### Priorities for businesses in recovering to chronic stressors

- Diversifying economy. This could potentially be done with industry-specific tax-incentives
- Succession planning
- Mitigating and hardening structures for high winds, water intrusion, etc.
- Ensuring that the water quality of the Indian River Lagoon is at a level that can sustain tourism and is healthy for the public to be exposed to
- Increasing reliance on solar and other forms of energy
- Ensuring that businesses purchase insurance, such as boat insurance, so that their business is more resilient to natural disasters
- Revisiting business plans on occasion to ensure that they are up to date for a contingency
- Roadway infrastructure (due to County size/length restraints) is crucial to getting employees back to work and the supply chain properly functioning. Lack of roadway options.
- Sea level rise effects on beachfront and infrastructure
- Detailed solutions for Derelict vessels destruction and removal
- COOP Plan development to include data protection and management.

Businesses will focus and work until a tipping point forces resilience.

Sustainable businesses need to buy into the brand of the municipality. Businesses need to be engaged at the local business Chamber or trade show event to make an impact

SCORE program- small business center

### Group Priorities and Action Items

#### Priority 1 – Business to Business Mentoring and Outreach

##### Actions

Ensure that small businesses have contingency plans and contingency funds for hazard events through outreach. This could be in the form of a “one-pager” from the chamber of commerce with best practices for responding to and preparing for hazard events.

#### Priority 2 – Ensure that small businesses are prepared to deal with hazard events

##### Actions

Coordinate with local Colleges and Universities to create Student led- update or writing Business Action/Continuity Plans; Identify 20+ businesses to assist in development of BCOOPs.

#### Priority 3 – Identifying “point person” in local government to act as a liaison between the business community and the local government

##### Actions

Create a position at County level to be Chief Resilience Officer to:

Facilitation/program development of COOP planning by jurisdiction with small businesses.

Assessment of plans to diversify, identify vulnerabilities to adapt.

### Questions

Are local jurisdictions and private sectors considering and working together to address the economic impact due to short and long-term stressors and shocks?

What is most crucial for business recovery and response? What is most needed for businesses to recover and respond most efficiently and effectively?

What role does the business sector play in socio-economic resilience? What are the gaps for businesses in this role?

What is the biggest priority for the Workforce to prepare for and recover from shocks and stressors?

What infrastructure is most crucial for workforce resiliency?

Are there opportunities that currently exist that can be leveraged to improve hard/soft infrastructure resilience?

How is the tourism industry preparing for shocks and stressors?

Who should be responsible for implementing economic resilience locally and regionally and what would a regional resilience group look like and how could it function?

## Discussion

### Collaboration for economic impacts

Manufacturers immediate response was good.

Skilled labor shortage-need to build awareness that they are good jobs

Change perception

Manufacturing sector is diverse and lifts communities (\$49k / year)

How do you tap into Puerto Rico migrants to fill job openings?

Southeast Volusia is having meetings to develop economic plans.

Loss of workforce during evacuations and after.

\*Small Business Association\* good connection resource

Businesses don't always have the traditional definition of employees.

BDR dollars requires employees with documentation and not applicable to the "gig" economy- government is lagging behind with "what is a business"

Communication issues with funding disaster eligibility.

Need good solid Plans in place.

Volusia has good communication between government and the private sector.

Florida Virtual Business EOC – need more info on the local level

Needs for Business -no jargon

-simple but consistent message

- ONE Point of Contact

Loss of trading partners and resources ie: LD P.R- saline bacp

-hospitals lost resources (lack of saline supplies

Manufacturing Association can assist in ID interruptions in manufacturing and ID downstream impacts and what other sources can supplement.

Cascading effects ( ie: key lime pie + cruise ships

Companies are on stand-by

Generators are important for business.

“open for business”

Local Mom + Pops getting open provides a sense of comfort and normalcy after disaster

Trickle effect of suppliers, distributors and marketers.

### Role of Business

Plan for providing support or quick response when interrupted

(customers, employees, etc.)

Wage vs. unemployment= issue for businesses

Companies have their own food pantry.- resource for after the storm (Spartan- DeLeon Springs)

\*Economic Development Vulnerability Assessment= link back with businesses, employees and community

Take inventory of staff for vulnerabilities and resources

(internal best practice- long term practice at recovery)

What to do when support system is interrupted and need to work (ie school closings, daycare, transit)

Solution is community-based assistance (village concept)

-flexible work schedule

### Workforce Needs

Collectively helping out personally and professionally

Communication

Secure housing

Reserves to help out employees

Chambers- important to help with planning and resources

For required staff or public facing, how do you help them in dealing with irate public and other issues they would not deal with normally.

Need contracts with similar businesses to help out and fill in gaps. (personnel and resources)

Need Point of Contact for business community (ED Director)

ESF Resource

Workforce Checklist

(kids, contact employer, etc)

Timely recovery centers

### Crucial Infrastructure-

Childcare, roads, electricity

YMCA, daycare to day care, work from home or kids at work

Communication of infrastructure

Social media

Notices

### Tourism

Is the replacement of electric folks sufficient replacement of tourism \$

### WHO IS RESPONSIBLE FOR ECONOMIC RESILIENCY?

COAD- brings diversity

Short-long term resiliency

Volunteer based

County EOC- everything has a different need + EOC prepares for all types of issues.

Sharing of lessons learned. Group??- more than just county?

### Group

-industry professionals

-elected officials

-citizens

= one message specific to different sectors ie:

economic., tourism, workforce

### Group Priorities and Action Items

#### EDUCATION IS CRITICAL

Priority 1: Childcare

Actions: army family care plan

Priority 2: Workforce checklist

Actions:

Priority 3: Business Disaster and Resource Plan

Actions: be a resource for employees

Vulnerability assessment on all things

Priority 4: Long term housing  
 Action: homeless in hotels and abuse of TSA funds

**Planning**

- What are the priority topic areas from a jurisdictional or agency perspective that need to be addressed as related to resiliency planning? What are the first steps Cities and agencies should take in “planning for resilience” to implement these priorities or focus on the priority areas? What are the challenges in implementing those first steps?
- What was the biggest challenge in response and recovery from Irma? What is needed to provide a solution to those challenges?
- What is the greatest need for the staff in your discipline in preparing for stressors and shocks in the community/region? What are some of the ways to achieve it?
- What is the biggest challenge in terms of limiting development in areas now deemed “vulnerable” to increased flooding or inundation from sea level rise? Policy solutions?
- What are strategies or activities that are low hanging fruit needing to be implemented in the next 1-3 years across disciplines? What are barriers to long-term, higher fruit that need to be broken down in the next 1-3 years? How do we break down these barriers? (somewhat repetitive of the first question, so this may be just a way to reframe it for the second breakout group or Perhaps move to the bottom?)

Discussion

Outreach and Education -	Communication is needed to make sure the elected officials and residents are aware of risks and issues. Some residents are very hard to reach. Champions need to be created to get the message out.
Biggest challenges	<p>Communications were down. Could contract for emergency cell towers to facilitate WI FI and internet availability</p> <p>Storm debris was a problem. Public education is needed to tell residents not to cut down trees right before a storm due to flying debris. Also, government needs to let residents know when debris will be picked up after the storm...very long wait .</p> <p>Do I need sand bags? Flood prone areas only</p>

	<p>Both residents and officials need to be educated as to the specifics of the storm surge and flood risks</p> <p>Lack of information</p> <p>Use "Next Door" as warning system?</p> <p>League of Women Voters can be advocate</p>
Greatest need for staff	Better communication and outreach
Limit development in certain areas	This is a chronic and immediate need. However, communities do not see the downside to development until it hits them in the pocketbooks
Communication was down	Emergency Cell Phone Services could have portable towers
Limiting development has issues	<p>Sued by developers</p> <p>Downzoning</p> <p>No recognition of risks</p> <p>Officials want to raise tax base v risks as perceived</p> <p>Hot economy/market. How do you stop or lower this</p> <p>Politics. Staying in power is important. Problems are in the future</p> <p>Turnover of elected officials ruins continuity and knowledge base</p> <p>Make it less desirable to locate businesses in high risk areas...negative incentives.</p> <p>Insurance insolvability high rates may deter homeowners and businesses</p> <p>Those at risk will may more</p> <p>Get citizens involved as vocal advocates</p>
Flooding	Lack of leadership consensus for chronic issues

#### Group Priorities and Action Items

Communication	Emergency Cell Phone Services could have portable towers
Education	Constant education of elected officials because they change so often
Transportation	Moving people safely
Get leaders to know there is a problem	Approving development and high rises along coast is still happening
	Water supply is limited and there is saltwater intrusion already
	The population is still increasing in hazardous areas
	Still more density on barrier islands

	Easiest is not to destroy existing systems and to protect the natural infrastructure
Flooding	Planning for long term impacts that require money today
	Educating constant flood of new residences who are ignorant of dangers and environmental issues and sustainability issues (the natural systems here)
	Educate elected official to know issues and have a champion and a strong advocate, both elected and non-elected.
Biggest challenges with IRMA?	Clearing storm debris Need to be proactive and educate residents to take care of the area early. Not right before the storm Preparation Communicate to residents when the debris will be cleared
	Cell Phone and WI fi for internet availability``
	Do I need sand bags? Flood prone areas only
	Both residents and officials need to be educated as to the specifics of the storm surge and flood risks
	Lack of information
	Use "Next Door" as warning system?
	League of Women Voters.