



Information Session: Community Resilience Planning for Disaster Recovery

Lead Presenter:
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NATIONAL SECURITY



INFRASTRUCTURE



ENERGY & ENVIRONMENT



HEALTH SOLUTIONS



Overview

- Introduction to project goals & objectives
- Overview of guidance & associated tools
- Break for questions & answers
- Application process
- Benefits to participating communities
- Selection process & criteria

Questions during presentation?

- Type into the chat box and we will try to answer them

Questions after presentation?

- Email community.resilience@huduser.gov

This webinar is being recorded and will be posted to the project website
<https://www.huduser.gov/portal/Community-Resilience-Planning-Assistance.html>



Project Team

Government

- Department of Housing and Urban Development (HUD)
- National Institute of Standards and Technology (NIST)

Contractor

- Applied Research Associates (ARA), Inc.
 - Worked with NIST to develop NIST Community Resilience Planning Guide, Playbook
 - Provided technical support to communities implementing NIST Guide
- Atkins North America
 - Extensive state and local emergency management experience and provides comprehensive pre-disaster planning and post-disaster response and services





Project Goals

HUD wants to have more ways to improve resilience of communities

- HUD's Community Development Block Grant Programs (CDBG, CDBG-DR, CDBG-MIT) are major sources of disaster mitigation and recovery funding
- Seeking communities to help HUD understand impact of community resilience planning and can be used as examples for others around the country

NIST wants to improve its existing community resilience guidance and tools by learning from experience with communities

- Needs diverse set of communities to do more testing of guidance and tools to tell us how they can be improved



Project Objectives

Develop case studies on how communities can improve long-range plans to enhance community resilience

- Comprehensive Plans
- Hazard Mitigation Plans

Provide examples for HUD and communities to follow in future planning



We need your help! We want to help you, too!

Three communities will be selected to participate in:

- Using NIST guidance and associated tool(s) to strengthen long-range plans
- Developing case studies that showcase what works well and lessons learned

By participating, each community will receive:

- Assistance from experienced team who have:
 - Worked with NIST to develop community resilience guidance
 - Working with communities in local planning
- Liaison to provide guidance and answer questions about process/tools
- Opportunity to learn from other communities going through the same process



NIST Guidance and Associated Tools Available for Project

Guidance

- [NIST Community Resilience Planning Guide](#)
- [NIST Community Resilience Playbook](#)

Tools

- [Economic Decision Guide Software \(EDGe\\$\) Online Tool](#)
- [Plan Integration for Resilience Scorecard™ \(PIRS\)](#)



NIST Guidance

Community Resilience Planning Guide

- Volume I – 6-step planning process, planning example
- Volume II - Reference material (social institutions, buildings, infrastructure)

Playbook

- Shorter, more action-oriented version of the Guide
- Website with templates & resources

NIST Special Publication 1190
Community Resilience Planning Guide for Buildings and Infrastructure Systems

Volume II

NIST
National Institute of Standards and Technology

U.S. Department of Commerce

Volume I

NIST
National Institute of Standards and Technology

U.S. Department of Commerce

Community Resilience

COMMUNITY RESILIENCE PLANNING GUIDE FOR BUILDINGS AND INFRASTRUCTURE SYSTEMS

A Playbook

NIST
National Institute of Standards and Technology
U.S. Department of Commerce

U.S. Department of Commerce
William F. Ryan, Jr. Secretary
Walter Copps, NIST Director and Under Secretary
of Commerce for Standards and Technology

NIST SP 1100B-15
March 2016 (Revision 2016) NIST SP 1100B-15

October 2020

COLLABORATIVE PLANNING TEAMS: DIVERSE APPROACHES

FORT COLLINS

BOULDER COUNTY COLLABORATIVE
Your Dollars In Action

NASHUA

STEP 2: UNDERSTAND THE SITUATION

Objective
Gather information about the community's social and economic functions, buildings and infrastructure systems, and their interdependencies.

Key Take-Aways

- The community's social and economic functions and institutions drive the needs of the built environment.
- Identifying building clusters that support social and economic functions helps determine actions to improve resilience and set priorities.

Actions to Accomplish

- 2-1: Assess existing community plans.
- 2-2: Characterize community members and their needs.
- 2-3: Characterize the community's social functions and dependencies.
- 2-4: Characterize the built environment.
- 2-5: Link social functions to the built environment.

Useful NIST Resources

GB 14 - Forming a Collaborative Planning Team and Engaging the Community
<https://www.nist.gov/publications/guide-14-forming-collaborative-planning-team-and-engaging-community>

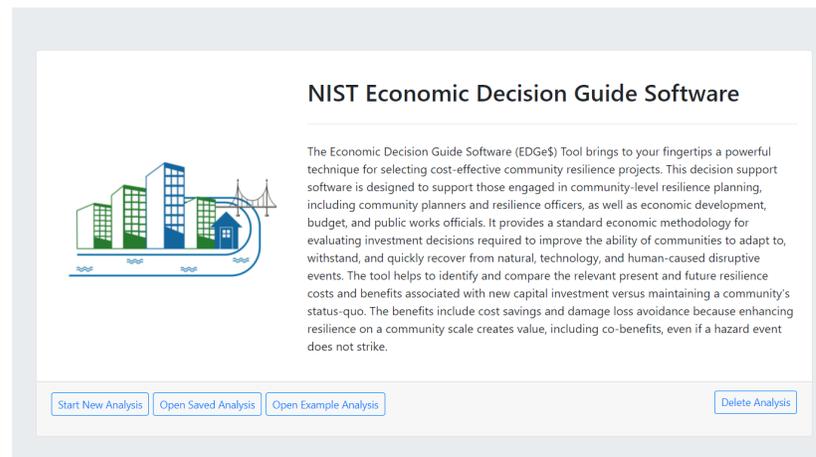
Playbook tables and templates: <https://www.nist.gov/communityresilience/community-resilience-planning-guide-playbook>
<https://www.nist.gov/publications>



Associated Tools

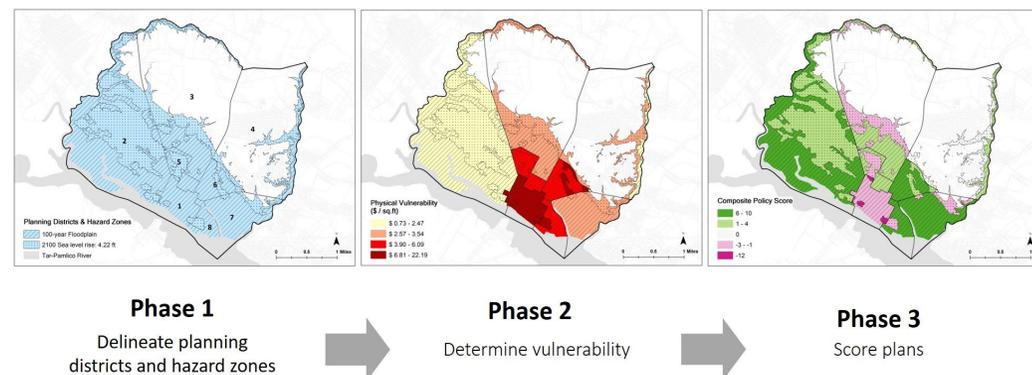
Economic Decision Guide Software (EDGe\$) Online Tool

- Benefit-Cost Analysis tool specific to community resilience investments
- Easy-to-use online platform
- Does not require economics background to use



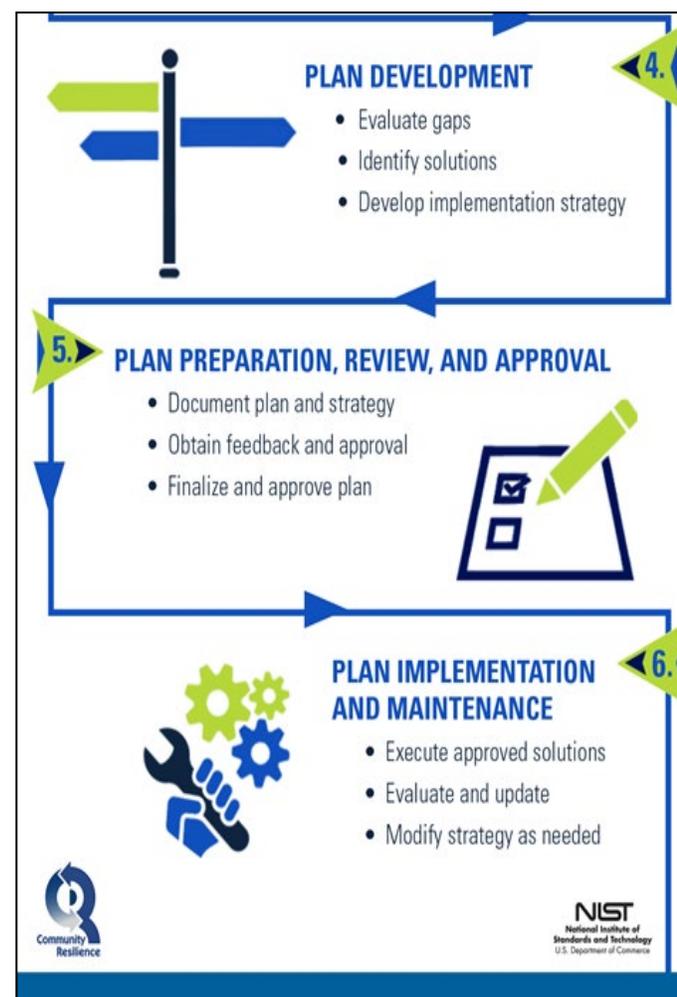
Plan Integration for Resilience Scorecard™ (PIRS)

- Method for assessing alignment of local plans to improve community resilience



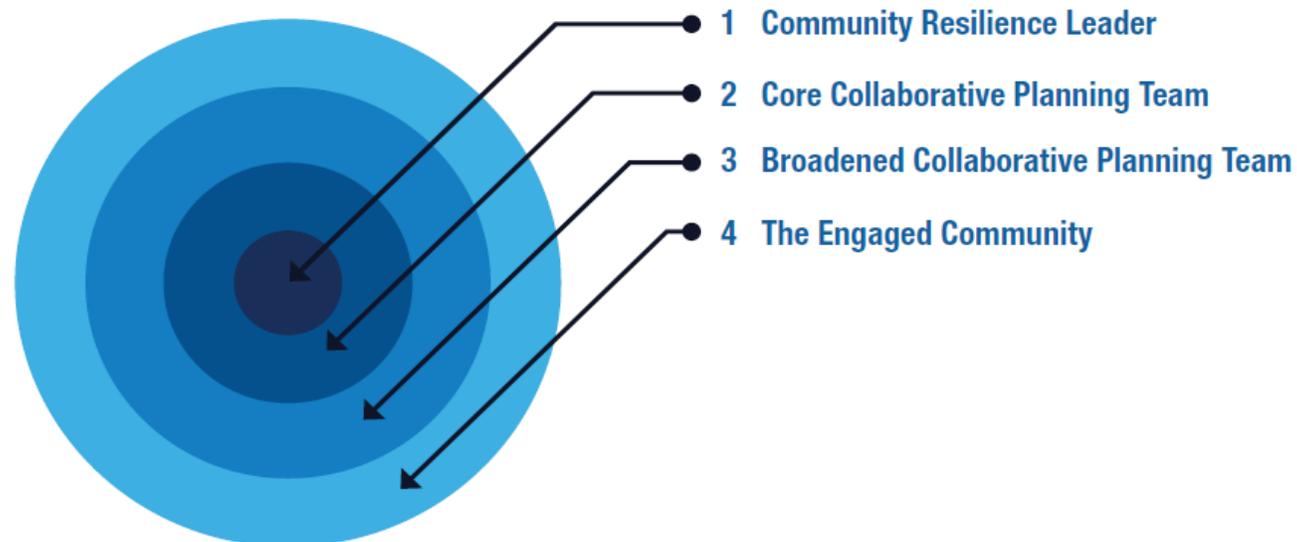


NIST Community Resilience Planning Guide & Playbook





Step 1: Form a Collaborative Planning Team



Leader

- Communicates goals and objectives; directs process

Core Collaborative Planning Team

- Key representatives from local government departments

Broadened Collaborative Team

- External stakeholders who can contribute to community resilience efforts

Engaged Community

- Groups not represented on planning team that need to be informed/consulted



Step 2. Understanding the Situation



The social functions and needs of a community drive requirements of buildings and infrastructure to be resilient

- Need to understand social functions that need to be prioritized in a disaster
- Need to determine which buildings and infrastructure support these social functions



Step 3. Determine Goals & Objectives - Continued

Desired performance (where we want to be)

- Independent of hazards
- Helps set priorities for planning and recovery

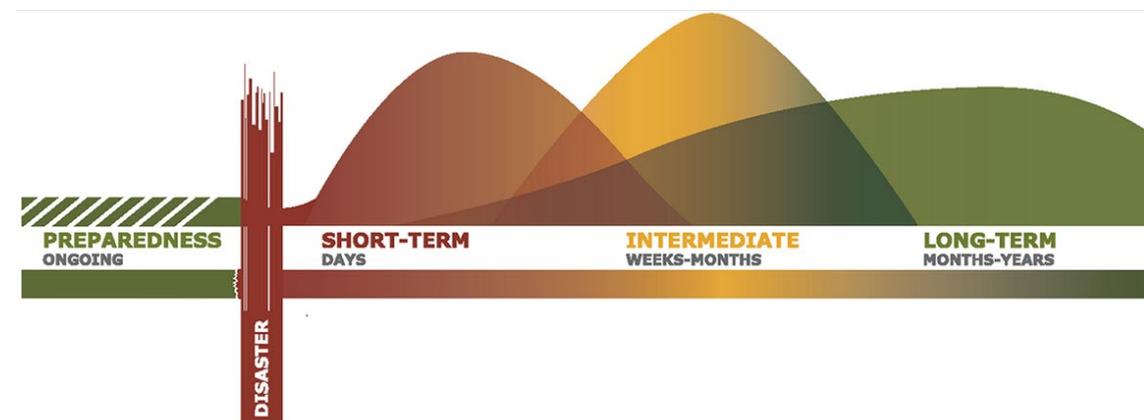
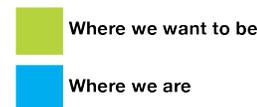
Anticipated performance (where we are today)

- Depends on hazard event, building codes, maintenance
- Helps identify vulnerabilities for recovery

Categories

- Critical Facilities
- Emergency Housing
- Housing/Neighborhoods
- Community Recovery

INFRASTRUCTURE	RECOVERY TIME								
	Days 0	Days 1	Days 1-3	Wks 1-4	Wks 4-8	Wks 8-12	Mos 4	Mos 4-24	Mos 24+
Critical Facilities									
Buildings	90%							X	
Transportation		90%	X						
Energy		90%	X						
Water			90%		X				
Wastewater				90%				X	
Communication		90%		X					





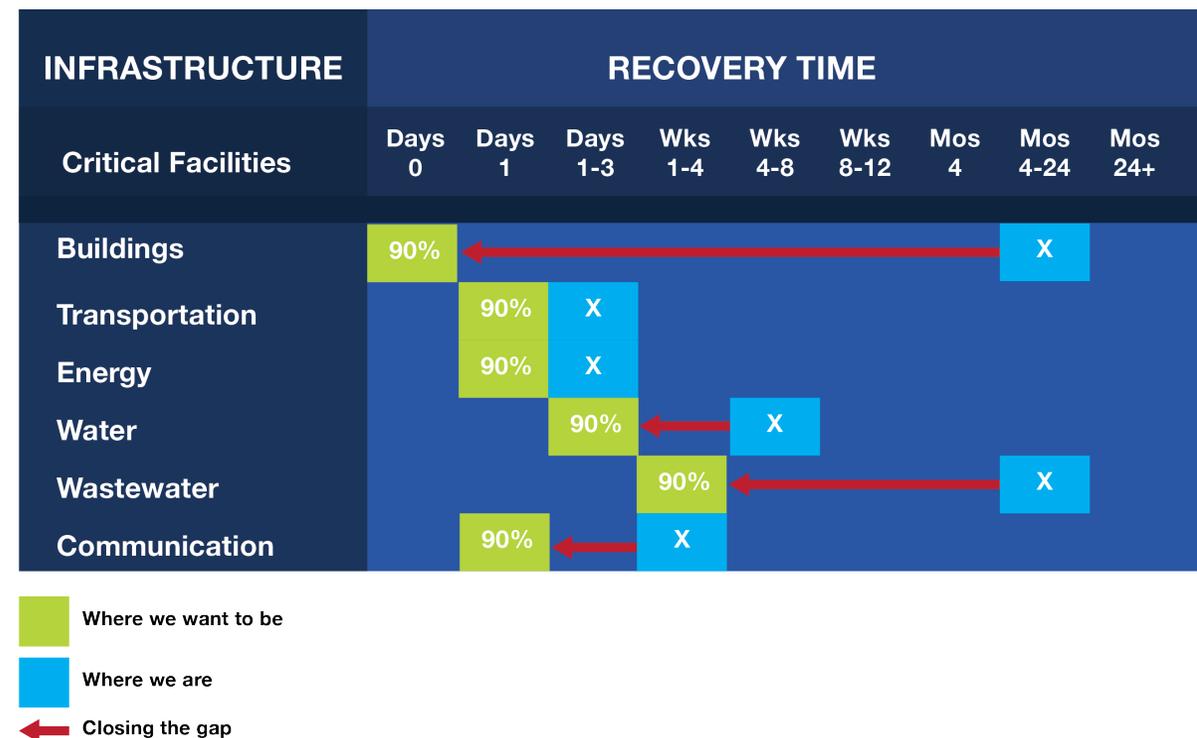
Step 4. Plan Development

Performance gaps

- Differences between anticipated and expected performance
- Helps set priorities for projects

Develop Solutions to Address Gaps

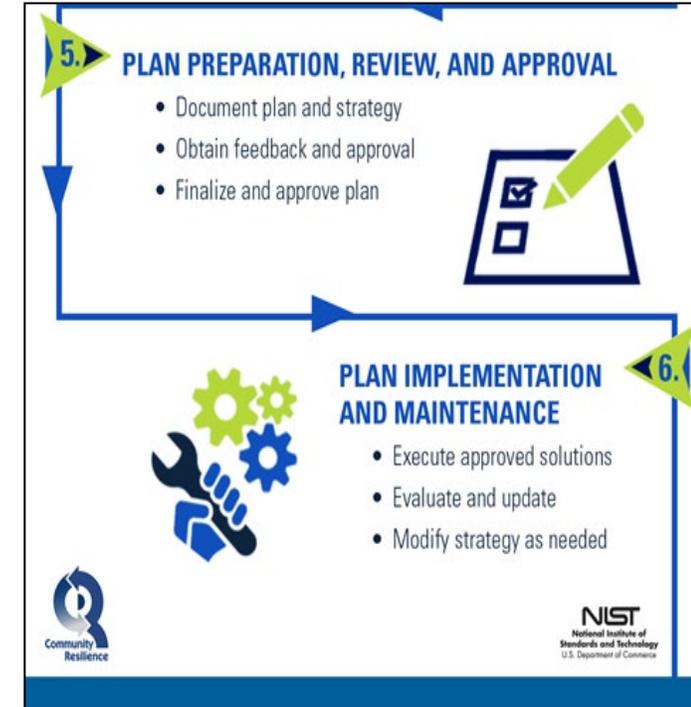
- Administrative Solutions
 - Building standards and codes
 - Land use planning
- Construction Solutions
 - Mitigation/retrofits





Steps 5 and 6: Plan Preparation, Review, and Approval; Plan Implementation and Maintenance

- Integrating results of steps 1-4 into your community's long-range plan
 - Comprehensive Plan
 - Hazard Mitigation Plan
 - Others (e.g., Resilience Plan, Climate Adaptation Plan, HUD Consolidated Plan)
- Benefit of building community resilience into the long-range plan is that it will continue to be a part of future cycles





Plan Integration for Resilience Scorecard™ (PIRS)

Method for assessing internal consistency of local plans

- Developed at Texas A&M University

Task 1: Review plans

- Gather up-to-date planning documents from local departments
- Identify policies that affect community resilience
- Assign scores based on impact and location
 - +1 = Positive impact
 - 0 = Neutral impact
 - -1 = Negative impact

Development Regulations													
Planning District	Place Specific	Vulnerability	Policy Tool	01	02	03	04	05	06	07	08	TOTAL (ALL PDs)	
Permitted Land Use													
[GOAL] Public facilities and publicly owned lands will be used at their highest and best use, except for those public lands that are in <u>environmentally sensitive locations</u> , where conservation should be the objective. (p. 47)	Current Hazard Zone	Yes	Yes	Yes		1				1			2
	Future Hazard Zone					1				1			2
Subdivision Regulation													
Strengthen controls on development within <u>flood-prone and wetland areas</u> by improving existing ordinances, such as the erosion and sediment control ordinance, zoning ordinance, subdivision ordinance, flood plain regulations and other development regulations. (p. 46)	Current Hazard Zone	Yes	Yes	Yes	1	1			1	1	1	1	6
	Future Hazard Zone				1	1	1		1	1	1	1	7
Zoning Overlays													
Consider creation of a Conservation Overlay Zoning District to help protect <u>sensitive areas</u> . (p. 42)	Current Hazard Zone	Yes	Yes	Yes		1				1			2
	Future Hazard Zone					1				1			2
Increase and bolster the number of key destinations near the <u>downtown and waterfront</u> to provide multiple components and uses catering to different audiences. (p. 38)	Current Hazard Zone	Yes	Yes	Yes	-1	-1					-1	-1	-4
	Future Hazard Zone				-1	-1					-1	-1	-4
Seek out opportunities to enhance <u>downtown</u> as a center of arts and cultural resources. Promote efforts to enhance the visibility and use of the historic Turnage Theater. (p44)	Current Hazard Zone	Yes	Yes	Yes	-1								-1
	Future Hazard Zone				-1								-1
Policy Category Total													
Current Hazard Zone					-1	2	0	0	1	3	0	0	5
Future Hazard Zone					-1	2	1	0	1	3	0	0	6



Plan Integration Resilience Scorecard (PIRS) - Continued

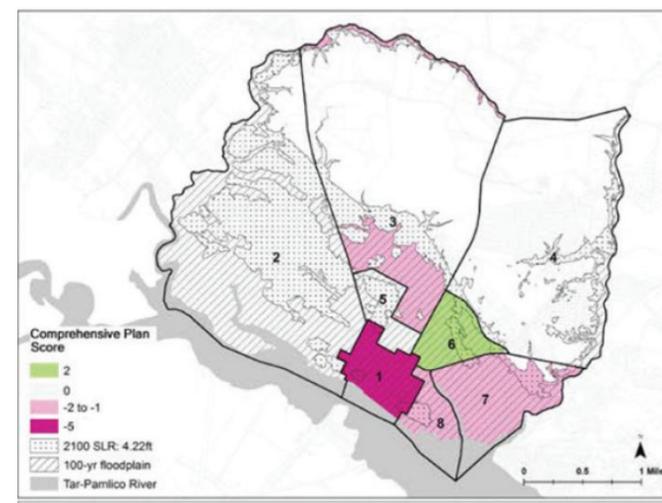
Task 2: Conduct Analysis

- Sum policy scores for each district for each plan and across plans
- Show in table and visually in maps, identify gaps and “hot spots”

Task 3: Advance Plan Integration and Resilience

- Update plans and policies to resolve conflicts and improve resilience

District (total score for all policies in district)	Core Land Use (CAMA)		2023 Comprehensive		Hazard Mitigation		Parks & Recreation		All Four Plans (Combined)	
	Current Hazard Zone	Future Hazard Zone	Current Hazard Zone	Future Hazard Zone	Current Hazard Zone	Future Hazard Zone	Current Hazard Zone	Future Hazard Zone	Current Hazard Zone	Future Hazard Zone
District 1 (Downtown)	-2	-6	-5	-5	10	2	0	0	3	-9
District 2	6	2	0	0	9	2	1	1	16	5
District 3	0	-2	-1	0	1	2	1	1	1	1
District 4	0	-1	0	0	3	2	1	1	4	2
District 5	0	-4	0	0	6	2	1	1	7	-1
District 6	6	0	2	2	11	2	0	0	19	4
District 7	5	-1	-2	-2	12	2	1	1	16	0
District 8	4	-2	-1	-1	10	0	1	1	14	-2
TOTAL	19	-14	-7	-6	62	14	6	6	80	0





Application of PIRS™

Norfolk, VA (Pop ~ 245,000)

- Problem:
 - Coastal flooding
- Approach:
 - Evaluated 6 relevant plans (identified 16)
- Outcomes:
 - Policy amendments for hazard vulnerability, disproportionate impacts in underserved communities.
 - Secured funding to reduce vulnerability to flooding in underserved communities
 - Incorporate information into next comprehensive plan update

Rockport, TX (Pop~ 11,000)

- Problem:
 - Widespread impacts from Hurricane Harvey
- Approach:
 - Use PIRS while developing comprehensive plan (received grant for technical assistance)
- Outcomes:
 - New comprehensive plan:
 - Focused on building resilience
 - Highlights how recommendations align with other plans
 - Makes clear how policies related to other plans and initiatives

PIRS Guidebook: <http://mitigationguide.org/wp-content/uploads/2018/03/Guidebook-2020.05-v5.pdf>

APA Summary: https://planning-org-uploaded-media.s3.amazonaws.com/publication/download_pdf/PAS-MEMO-2021-01-02.pdf



Economic Decision Guide Software (EDGE\$)

- Benefit-Cost Analysis (BCA) tool designed for community resilience investments
- Does not require background in economics to use
- Accounts for low-probability, high-consequence events
- Includes step-by-step User Guide with example scenarios





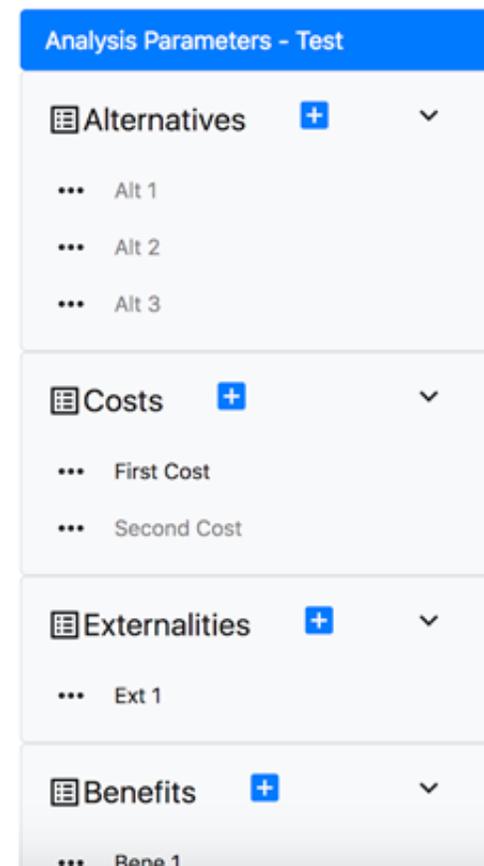
Economic Decision Guide Software (EDGe\$) - Continued

Emphasis placed on identifying:

1. Direct and indirect costs
2. Direct and indirect benefits
3. Externalities
4. Co-benefits that accrue on day-to-day basis

Outputs from EDGe\$:

1. Net Present Value (NPV)
2. Benefit-to-Cost Ratio (BCR)
3. Return on Investment (ROI)
4. Non-Disaster ROI; and
5. Internal Rate of Return (IRR)





Break for Questions on Guidance and Tools

Please type questions into chat box now:

- We will answer a few questions before discussing who should apply and the application process
- If your question is not answered here:
 - It may be answered in the next section, or
 - We can answer it after the webinar is completed by posting to the website



Who should apply?
What's the application process?



Who Should Apply?

- Communities that have resources for planning and want to become more resilient, but seek assistance
- Communities who have a planning timeline that aligns with those in the table below

Community #	Start of Support	End of Support
1	March 2022	October 2022
2	June 2022	January 2023
3	September 2022	March 2023

*Community = place designated by geographical boundaries that functions under the jurisdiction of a governance structure (e.g., tribe, town, city, county)



Why Should you Apply?

Support

- Provide & customize templates for collecting data/information to organize effort
- Remote participation in meeting/workshops to answer questions and provide feedback
- Regular remote meeting with community leader (e.g., every 2 weeks) – help with challenges and next steps
- Provide guidance and training on tools (EDGe\$, PIRS)

Opportunities to interact with other communities during planning process

- Learn from each other's experiences



What's Next? The Application Process...

Deadline: **December 17, 2021**

- Send email to community.resilience@huduser.gov expressing interest in participating, with the following:
 1. Copies of the most recent Hazard Mitigation Plan, Comprehensive Plan, or equivalent
 2. Brief Letter of Support from local official with authority to commit community resources to project
 3. Proposed timeline for planning process
 4. Brief application form
- Phase 1 selection criteria will be used to identify 6-8 communities
- Phone interviews and Phase 2 selection criteria will be used to make final decisions



Selection Criteria – Phase 1: Individual Communities

Criteria based on review of individual community submissions:

1. Most recent Comprehensive Plan and/or Hazard Mitigation Plan.
2. Letter of support from a local official
3. Preferred timeline for the community's planning process
4. Completed application form:
 - Sufficient staff availability
 - Interest in NIST guidance and associated tools
 - Engaging and prioritizing socially vulnerable populations
 - Data collection



Selection Criteria – Phase 2: Group of 3 Candidate Communities

Criteria based on diversity among group of 3 candidate communities:

1. Diverse set of primary natural hazards and/or geographic regions.
2. Diverse size and type of community.
 - Mixture of small and mid-size communities that want to do this type of planning but need some assistance.
 - Example community types: urban, suburban, rural, tribal.
3. Different vulnerabilities.
 - Example: poor housing quality, housing affordability issues, underserved populations, etc.
4. Use a variety of the NIST guidance and associated tools in their planning processes.



Contact

Any questions and all applications should be sent via email to:

community.resilience@huduser.gov

(email goes to all three of those listed below)

Individual Contacts:

David Mizzen, ARA Lead

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202-402-4512

Alaina Stern, HUD Co-lead

Alaina.M.Stern@hud.gov



Questions?

- Please enter questions into the chat box
- If we do not get to your question or you think of another question later, please email us at community.resilience@huduser.gov
- **Applications due:** December 17, 2021
- **Project Website:** <https://www.huduser.gov/portal/Community-Resilience-Planning-Assistance.html>



Additional Slides



Resources

Project Website

- <https://www.huduser.gov/portal/Community-Resilience-Planning-Assistance.html#tab-item1>

NIST Community Resilience Planning Guide

- <https://www.nist.gov/community-resilience/planning-guide>

NIST Community Resilience Playbook

- <https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.1190GB-16.pdf>

Playbook Templates

- <https://www.nist.gov/topics/community-resilience/planning-guide/planning-guide-playbook-templates-additional-resources>

Plan Integration for Resilience Scorecard (PIRS)

- <http://mitigationguide.org/scorecard-guidebook/>

NIST Economic Decision

- <https://www.nist.gov/services-resources/software/edge-economic-decision-guide-software-online-tool>