

PrepTalks Discussion Guides are companion documents to PrepTalk video presentations and question-and-answer (Q&A) sessions. When used together with the videos, these guides help translate the research and expertise showcased in each presentation into action steps to improve disaster preparedness.

Dr. Philip R. Berke: Land Use Planning for Community Resilience

Dr. Berke's PrepTalk explains how effective land use planning can reduce vulnerabilities and strengthen community resilience. He highlights how mitigation planning is often disconnected from other urban planning initiatives that influence development in hazard areas. And he showcases best practice examples of integrated planning and offers his recommendations and policy implications.

Dr. Berke is a Professor of Land Use and Environmental Planning and the Director, Institute of Sustainable Coastal Communities at College Station, Texas A&M. He co-authored "Natural Hazard Mitigation: Recasting Disaster Policy and Planning," selected as one of the "100 Essential Books in Planning" of the 20th century by the American Planning Association Centennial Great Books. In 2015, his paper "Evaluation of Networks of Plans and Vulnerability to Hazards and Climate Change: A Resilience Scorecard," received the Best Article Award from the Journal of the American Planning Association.

Preventative land use policies have the highest benefit-cost ratios and Community Rating System incentives, yet are the least used actions to reduce vulnerability and promote mitigation.

Dr. Philip R. Berke

What is Planning? by Cynthia Bowen, AICP, President of the American Planning Association

"The goal of planning is to maximize the health, safety, and economic well-being of residents in ways that reflect the unique needs, desires, and culture of those who live and work within the community.

Each community is divided into parcels, or pieces, of land. The use of each parcel of land is guided by the community's zoning code. The zoning code is a set of rules that defines what each land parcel could or should be used for (such as housing, manufacturing or open space).

While architects often focus on a single building, a planner's job is to work with residents and elected officials to guide the layout of an entire community or region. [P]lanners also work to imagine what can and should happen to a community: how it should grow and change, and what it should offer residents 10, 15, or even 20 years into the future."

Source: <https://www.planning.org/educators/whatisplanning/>



Partners for the Discussion

Assessing existing plans and creating integrated land use strategies needs the support of representatives from a broad group of stakeholders. We encourage you to bring together planners from local and regional planning organizations and government offices and organizations that may have different areas of focus, including hazard mitigation, community resilience, floodplain management, zoning, building codes, parks and recreation, transportation, economic development, affordable housing, and historic preservation. Include Geographical Information System (GIS) mapping specialists and consider inviting a representative from your state’s Hazard Mitigation Office. FEMA provides a list of State Hazard Mitigation Officers at <https://www.fema.gov/state-hazard-mitigation-officers>.

Land use policy from a regulatory perspective all happens at the local government. ... That’s where the power is.

Dr. Philip R. Berke

Dr. Berke has contributed easy-to-use tools to help communities assess and integrate their land use plans to better account for local hazards. Review these materials to support your integration process. The website [Beyond the Basics](http://www.mitigationguide.org) at www.mitigationguide.org is designed to help local governments update their hazard mitigation plan, and the [Plan Integration for Resilience Scorecard Guidebook](http://ifsc.tamu.edu/getattachment/News/July-2017/Plan-Integration-for-Resilience-Scorecard-Guideboo/Scorecard-(1).pdf.aspx) at [http://ifsc.tamu.edu/getattachment/News/July-2017/Plan-Integration-for-Resilience-Scorecard-Guideboo/Scorecard-\(1\).pdf.aspx](http://ifsc.tamu.edu/getattachment/News/July-2017/Plan-Integration-for-Resilience-Scorecard-Guideboo/Scorecard-(1).pdf.aspx) walks local governments through a process to spatially evaluate their networks of plans.

Watch Dr. Berke’s PrepTalk and Q&A session to hear findings from his research. Use this discussion guide and the other additional resources to better integrate your community’s plans with each other and to employ better land use planning as a mitigation strategy for the hazards facing your community.

Discussion Prompts

Topic One: Inventory existing plans for the community

Dr. Berke outlines the many types of plans a community may have, from those mandated by federal government to those created to support community plans. A good place to start the discussion is to gather all the known plans, including regional plans that affect your community. With the plans in hand discuss:

- What vulnerabilities should our community plans take into account? These may include areas subject to repetitive loss, flood-prone areas, areas near dams, levees, or that are susceptible to coastal surge.
- To what extent are hazard vulnerability assessments and mitigation plans used as a foundation for other community plans?
- Are there any plans that include development in areas of high hazard risk?

Examples of Land Use Plans

Comprehensive/General Plan
Hazard Mitigation Plan
Disaster Recovery Plan
Redevelopment Plan
Transportation Plan
Parks and Recreation
Economic Development
Historic Preservation
Environmental Management
Climate Adaptation
Environmental Management
Housing
Wildlife Management
Wildfire Protection

Why are plans contradictory?

“Even in small communities, and particularly in large communities, there are a variety of local departments and agencies. Within those departments and agencies there may be competing interests and priorities or changes in elected officials and turnover of staff. Sometimes despite our best interest, we find ourselves specializing in a particular area, so much so that we rarely interact with the sometimes daunting complex web of city departments and agencies. Whether it’s lack of resources or lack of time, communities can easily find themselves ‘siloed’. For instance, a planning department may not consider hazards during development review or the emergency management office may not influence planning and development management. ***For a community to holistically think about resilience, hazards must be considered in every part of community visioning, planning, and development.***”

Source: *Plan Integration for Resilience Scorecard Guidebook*; p. 3; [http://ifsc.tamu.edu/getattachment/News/July-2017/Plan-Integration-for-Resilience-Scorecard-Guideboo/Scorecard-\(1\).pdf.aspx](http://ifsc.tamu.edu/getattachment/News/July-2017/Plan-Integration-for-Resilience-Scorecard-Guideboo/Scorecard-(1).pdf.aspx)

Topic Two: Review Plans for Best Practices

Dr. Berke outlined specific principles for high quality plans in the slide below:

Principles that Define High Quality Resilience Plans
(examples of metrics)

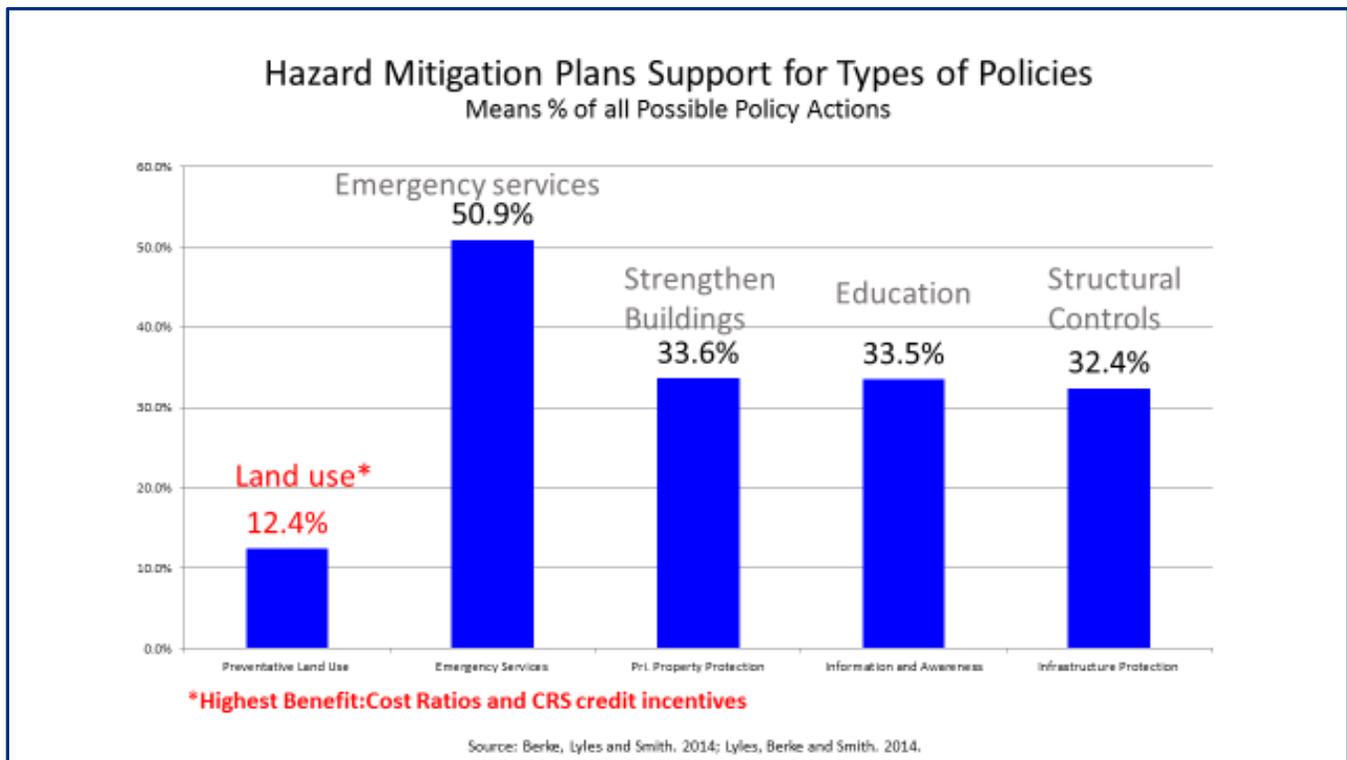
<ul style="list-style-type: none"> • Vision/Goals <ul style="list-style-type: none"> • P1.1 environment • P1.2 equity • P1.3 economic • Fact Base <ul style="list-style-type: none"> • P2.1 projections of hazards • P2.2 current land use supply • P2.3 future land use needs • Policies <ul style="list-style-type: none"> • P3.1 regulations • P3.2 incentives • P3.3 land acquisition • P3.4 infrastructure <p style="text-align: center; background-color: #4a86e8; color: white; padding: 5px;">Direction Setting</p>	<ul style="list-style-type: none"> • Implementation <ul style="list-style-type: none"> • P4.1 timeline to act • P4.2 org. responsibility • P4.3 funding • Monitoring <ul style="list-style-type: none"> • P5.1 measurable indicators • P5.2 evaluation • Inter-governmental Coordination <ul style="list-style-type: none"> • P6.1 info. Sharing • P6.2 inter-gov’t agreements • Public Participation <ul style="list-style-type: none"> • P7.1 id. Stakeholders • P7.2 id. engagement techniques <p style="text-align: center; background-color: #4a86e8; color: white; padding: 5px;">Action-Oriented</p>
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- How well do our community plans follow these principles?
- Is the vision outlined in each plan the same across plans?

- Are the facts upon which the plans are based up to date? Shared across plans? Do they include the social vulnerability of populations within the community? Check the Resources section of the Centers for Disease Control and Prevention (CDC) Social Vulnerability Index: <https://svi.cdc.gov>
- To what extent has there been public participation in the development of the plans? How well do members of the community understand the plans and what it means for their community?
- Is there good coordination across plans in terms of implementation? Monitoring? How could interagency and inter-governmental coordination be improved?

Dr. Berke’s research into the Hazard Mitigation Plans of 175 communities found that although land use policies provide the highest cost-to-benefit ratio and the highest credit incentive from the Federal Emergency Management Agency (FEMA) National Flood Insurance Program (NFIP) Community Rating System¹ (CRS), they were least used strategies, and only used one-third as often as policies focused on strengthening buildings or education.

- How well do our Hazard Mitigation Plans integrate land use planning?



If your community plans have any deficiencies, the Beyond the Basics website, www.mitigationguide.org, includes modules of tools and resources to use a plan quality assessment tool, create an outreach strategy, conduct a risk assessment, develop a mitigation strategy, and develop an implementation and monitoring program.

¹ <https://www.fema.gov/national-flood-insurance-program-community-rating-system>



Topic Three: Assess Integration of Plans for Resiliency

Dr. Berke describes a process detailed in the [Plan Integration for Community Resilience Scorecard](#) to ensure a community’s network of plans are designed to consistently enhance resilience not vulnerability.

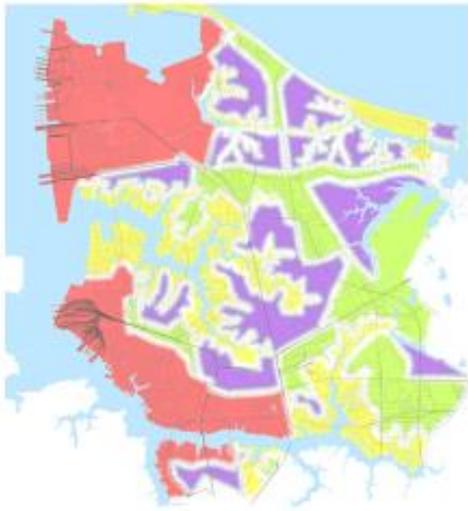
- Determine planning districts and delineate hazard zones.
- Determine physical and social vulnerability.
- Assess whether the plans increase or decrease vulnerability.

For this initial discussion, ask the members of your working group:

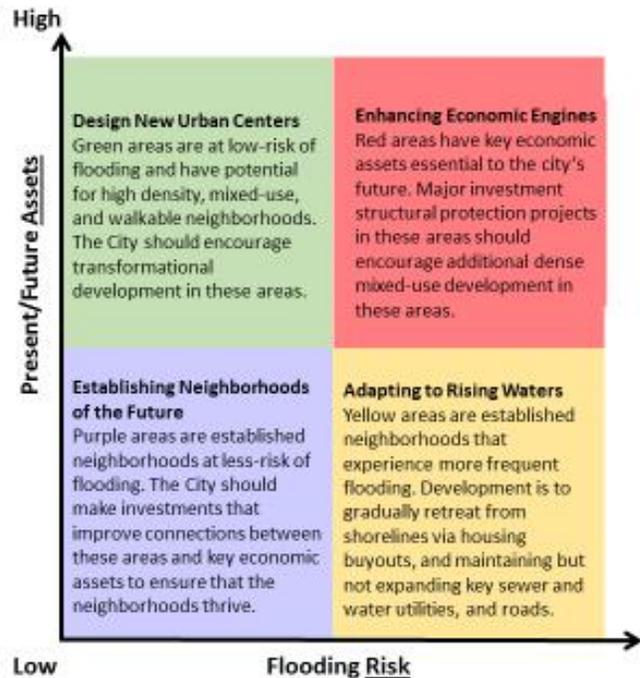
- Overall, how well do you think our community plans reduce or increase physical vulnerability (buildings, infrastructure) to disasters? How about social vulnerability (e.g. population segments that are at greater risk in a disaster such as the very old or young, individuals with a disability, minority populations and populations that don’t speak English well)?
- Are there any locations that are of immediate concern? How are we limiting development in vulnerable areas?
- How do our plans support our community’s ability to respond to a disaster, such as timely evacuation?
- For communities involved with FEMA’s National Flood Insurance Program (NFIP) Community Rating System, are we maximizing our credit for floodplain management planning?
- What benefits can our community gain by engaging in the process of integrating our plans?
- As in the example of Norfolk, Virginia, are there areas where our community should retreat, for example, maintain but not expand sewer, water utilities and roads? (The yellow box and areas in the slide below.)

Plans [often] support disadvantaged populations to live in hazardous areas, ensuring that they will be flooded again and forced further into poverty.
Dr. Philip R. Berke

Norfolk, Virginia's Vision 2100 includes land use strategies to address long-term vulnerability to coastal hazards and sea level rise.



Adapted from www.norfolk.gov



- Dr. Berke shared how the Netherlands used of a public gathering place as a storm water basin. Are there opportunities for innovative planning practices for our community?
- How can we better engage community members in this process?

Recommended Next Steps

- Create a process and timeline with your working group to assess and integrate your community's plans.
- Consider others who have a role in land use planning to join this group.
- Conduct an outreach campaign to encourage local community members to understand their community land use plans and how those plans will affect themselves and their community.
- Create visuals to share with the community that show how the plans work together to build resilience.

Additional Resources

- Plan Integration for Resilience Scorecard Guidebook: How to spatially evaluate networks of plans to reduce hazard vulnerability. http://mitigationguide.org/wp-content/uploads/2013/01/Scorecard_30Oct2017.pdf
- Evaluation of Networks of Plans and Vulnerability to Hazards and Climate Change: A Resilience Scorecard, Journal of the American Planning Association, http://coastalresiliencecenter.unc.edu/wp-content/uploads/2016/02/Berke_et_al._best_paper_JAPA_2015.pdf
- Beyond the Basics: Best Practices in Local Mitigation Planning: <http://mitigationguide.org/>
- FEMA Resources
 - Mitigation Planning Program Resource List: resources to help guide the development and implementation of hazard mitigation plans. https://www.fema.gov/media-library-data/1511293380356-d6663d2050a2dc2a4b2329c70143a00d/MP_ResourceList_Nov17pdf.pdf
 - National Flood Insurance Program Community Rating System incentive program information: <https://www.fema.gov/national-flood-insurance-program-community-rating-system>
 - List of State Hazard Mitigation Officers (SHMOs): <https://www.fema.gov/state-hazard-mitigation-officers>
- Planning Information Exchange: American Planning Association, Hazards Planning Center, <https://www.planning.org/nationalcenters/hazards/planninginformationexchange/>
- What is Planning? American Planning Association: <https://www.planning.org/educators/whatisplanning/>
- Introduction to Building Codes: International Code Council: <https://www.iccsafe.org/codes-tech-support/topics/plumbing-mechanical-and-fuel-gas/introduction-to-building-codes/>
- National Institute of Standards and Technology, Community Resilience Planning Guide: <https://www.nist.gov/topics/community-resilience/community-resilience-planning-guide>
- ATSDR/CDC Social Vulnerability Index (SVI): <https://svi.cdc.gov/>