



COMMUNITY PILOT PARTNERSHIP PROGRAM 2014 – 2018

Successes, Challenges and What We Learned

ResilientAmerica Program
The National Academies of Sciences, Engineering, and Medicine

Contents

Background and Origin of Resilient America Program	1
Origin of the Roundtable	1
The Community Pilot Program.....	2
Partnering with Communities – Selection and Approach	2
Resilient America’s Approach for Working with Communities: The Community Engagement Process..	5
1. Establish a Ground Team.....	6
2. Build and Foster Relationships	6
3. Identify Resilience Challenges, Needs, and Goals	6
4. Establish Resilience Baselines and Prioritize Resilience-building Actions.....	7
5. Implement Resilience Actions	8
6. Provide opportunities for knowledge exchange among communities and with other stakeholders.	9
Successes, Challenges, and What We Learned	10
What It Means to Be a Resilient Community	10
What Communities Told Us They Learned	11
What Resilient America Learned Through Its Work in Communities.....	12

Source note: The full report of the Resilient America Community Pilot Program is available at: <https://www.nationalacademies.org/our-work/resilient-america-community-pilot-program>

Background and Origin of Resilient America Program

ORIGIN OF THE ROUNDTABLE

In 2012, the National Academies of Sciences, Engineering, and Medicine's National Research Council (NRC) published the report, [*Disaster Resilience: A National Imperative*](#),¹ which provided recommendations around critical issues of resilience and strategic steps the United States could take to build resilience to disasters. The report defines resilience as “the ability to prepare and plan for, absorb, recover from, or more successfully adapt to actual or potential adverse events.” After the 2012 report was published, individuals from several federal agencies, academia, and the practitioner community approached the National Academies for help in implementing the report's recommendations (see Box 1). From these requests, the Resilient America Roundtable was founded.

Resilience is the ability to prepare and plan for, absorb, recover from, or more successfully adapt to actual or potential adverse events.

The Resilient America Roundtable (Roundtable), a unit located in the Policy and Global Affairs Division's (PGA) Office of Special Projects, was created in 2014. The Roundtable provides a venue for current research, science, and evidence-based foundations to inform whole community strategies for building resilience. It focuses on implementing new approaches to build resilience to disasters and other disruptions; applying and testing tools for improved understanding of risk; and connecting and facilitating partnerships among scientists, data providers, practitioners, and decision makers. In its beginning years, its core activities revolved around focused engagement in four U.S. communities: Cedar Rapids, IA; Charleston, SC; Seattle (region), WA; and Tulsa, OK.

The mission of the Resilient America Roundtable is to convene experts from the academic, public, private, and nonprofit sectors to design, catalyze, or facilitate activities and provide decision makers the intellectual heft of Academy members and other volunteers to take actions that build resilience.

The Roundtable is comprised of experts from the research community, government, private sector, foundations, and non-governmental organizations. Since its inception, the Roundtable has had 69 members with diverse expertise and experience in the physical sciences, engineering, social sciences, economics, community resilience, emergency management, local government, resilience measures, and urban planning. The makeup of the Roundtable evolves to reflect the program's dynamic activities.

In its first five years, the Roundtable drew much interest and undertook several lines of work. It was expanded from just a Roundtable to the Resilient America Program (Resilient America) to reflect its broad portfolio of work: a community pilot program, convening activities, consensus studies, community engagement efforts, and role-playing games. Resilient America has hosted workshops, conferences, and tabletop exercises nationally and internationally. It has completed three consensus studies: [*Building and Measuring Community Resilience: Actions for Communities and the Gulf Research Program*](#) (2019);²

¹ National Research Council. 2012. Disaster Resilience: A National Imperative. Washington, DC: The National Academies Press. <https://doi.org/10.17226/13457>.

² *Building and Measuring Community Resilience: Actions for Communities and the Gulf Research Program* is available at <https://www.nap.edu/catalog/25383/building-and-measuring-community-resilience-actions-for-communities-and-the>.

Framing the Challenge of Urban Flooding in the United States (2019);³ and *Strengthening Post-Hurricane Supply Chain Resilience: Observations from Hurricanes Harvey, Irma, and Maria* (2020).⁴ It partnered with the Koshland Science Museum (now [LabX](https://labx.org/)⁵) to develop the role-playing game, *Extreme Event*.⁶ And its stories have been published by the World Economic Forum (2015) and *European Review* (2018). Since the close of its community pilot program in 2018, Resilient America continued its community engagement focus in the southeastern region of the United States and in southeast Texas to tackle issues around flood risk, preparedness, and mitigation.

The end of 2018 drew the inaugural five-year period of the Resilient America Program to a close. This report reviews what the program was able to undertake and accomplish during its first five years, takes stock of its successes and lessons for the program and the National Academies more broadly, and considers next steps for resilience work.

The Community Pilot Program

PARTNERING WITH COMMUNITIES – SELECTION AND APPROACH

During its first five years, the community pilot program formed the core activity of the Resilient America Program. The purpose of this program was to partner with four U.S. communities to implement four recommendations from the NRC 2012 report (see Box 1).

Box 1

Four Recommendations for Building Community Resilience

All communities are at-risk of impacts from disasters and other hazards, whether they are natural disasters (e.g., hurricanes, wildfires, or droughts) or human-made disasters (e.g., terrorist attacks, financial collapse, or social unrest). One way communities can reduce the impacts of disasters is to enhance their resilience (NRC 2012, p. 1). A resilient community is better able to prepare for, respond to, and recover from a disaster or other disruption.

The NRC 2012 report outlines four recommendations for building community resilience:

1. Communicating, understanding, and managing risk.
2. Building coalitions and partnerships across stakeholders in the public, private, nonprofit, and academic sectors.
3. Measuring resilience.
4. Sharing data and information about best practices, hazards, communication, and policies that build resilience.

These four recommendations provide the foundation for the work of the Resilient America Program and the community pilot program.

³ *Framing the Challenge of Urban Flooding in the United States* is available at:

<https://www.nap.edu/catalog/25381/framing-the-challenge-of-urban-flooding-in-the-united-states>.

⁴ *Strengthening Post-Hurricane Supply Chain Resilience: Observations from Hurricanes Harvey, Irma, and Maria* is available at: <https://www.nap.edu/catalog/25490/strengthening-post-hurricane-supply-chain-resilience-observations-from-hurricanes-harvey>.

⁵ More information about LabX is available at <https://labx.org/>.

⁶ More information about the Extreme Event game is at <https://labx.org/extreme-event/about-the-extreme-event-game/>.

In September 2014, Charleston and Cedar Rapids/Linn County became the first two pilot communities. Seattle joined as the third pilot in early 2015 and subsequently grew to include jurisdictions across the Central Puget Sound Region (King, Kitsap, Pierce, and Snohomish). Tulsa became the fourth pilot community in 2016 (Figure 1).

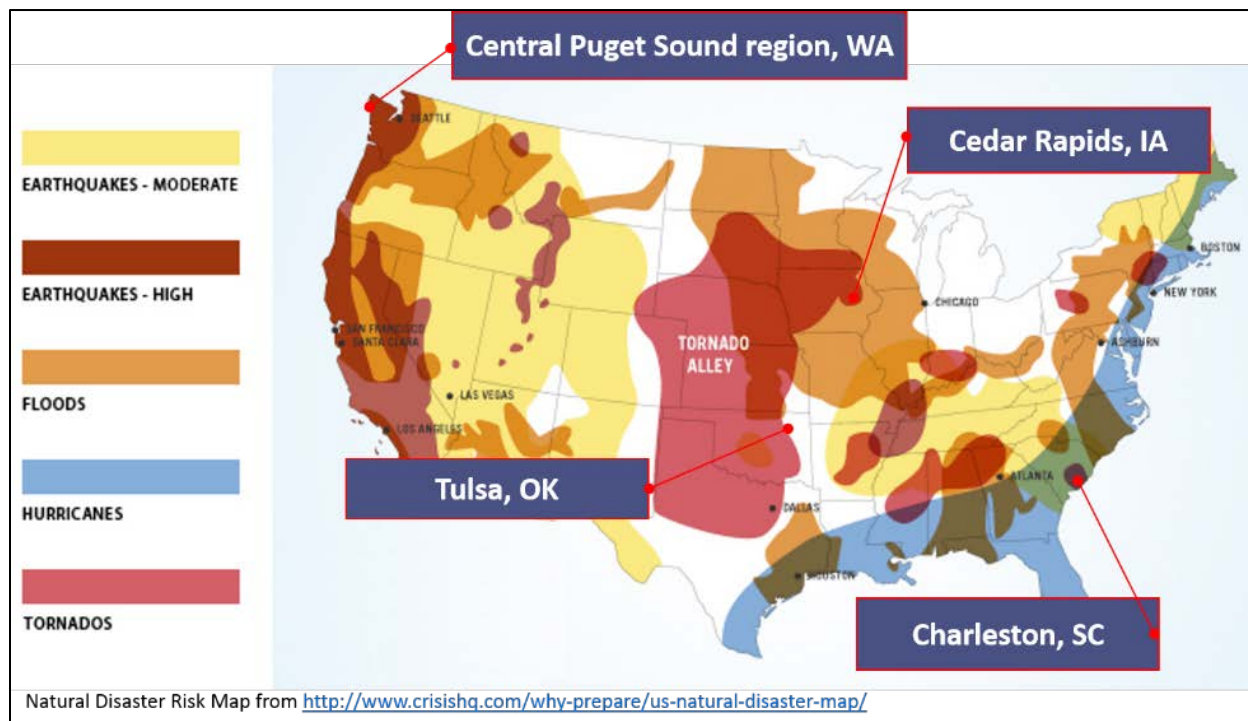


Figure 1. Resilient America pilot communities.

Building resilience requires engaged and proactive efforts at the local level. Resilient America Roundtable members and staff worked with each community to identify its key priorities; tie those priorities to risks that the community faces; and identify actions that the community could take to build resilience to those risks. The community pilot program entailed intense work at the community level, partnering with decision makers and other community stakeholders to identify resilience challenges, priorities, and potential actions they could take to build or enhance resilience in their communities. One of the Resilient America Program's most important roles was as "resilience matchmaker": it fostered connections among diverse community stakeholders, facilitated dialogue and learning, helped them identify which questions to ask, and provided access to experts and the technical expertise needed to answer those questions.

The Roundtable established criteria to guide the community partner selection process and nominated communities for the community pilot program based on these criteria. Communities were selected from different regions in the United States (e.g., west, east, south, and Midwest) and they had diverse hazard profiles and demographics. A key determinant was the level of enthusiasm of local decision makers and key stakeholders to partner with the National Academies and commit to their community's resilience efforts. Ultimately, the communities that were chosen reflected issues and characteristics common to a broader set of communities across the nation to enable Resilient America to connect its pilot communities with other communities that shared similar characteristics and experiences (e.g., Charleston shares similar hazard profiles and demographics with Biloxi, MS and Savannah, GA) as well as to enable the sharing of experiences and lessons learned with communities across the United States. These connections were a pathway to expand the program's reach.

Resilient America tailored its activities in each community to the community's risks, priorities, and needs. Flexibility was essential to the program's success to ensure program activities could be adapted to community priorities, as needed.

The community engagement process involved continuous outreach and relationship-building over the life of the community pilot program. In each community, a "ground team"—a core group of local stakeholders—was established that provided input and guidance, and whose members acted as liaisons to the broader community. These local resilience champions were leaders in developing and/or implementing resilience-building activities in the community. Resilient America identified, established, and cultivated these ground teams and ensured they included representation from the academic, private, public, and non-profit communities.

Roundtable members brought their expertise and knowledge to help design and facilitate activities, and they provided technical assistance to address specific resilience challenges. In addition, Resilient America leveraged the vast National Academies network to convene experts from the academic, public, and private sectors to participate in workshops, conferences, and other events; these activities were tailored to the specific needs of each community. The focus of Resilient America's work in each pilot community was as follows:

- Charleston, SC, and Cedar Rapids, IA, focused on building resilience to flooding, both chronic and acute, specifically through the use of flood resilience measures.
- In the Central Puget Sound, WA (King, Kitsap, Pierce, and Snohomish Counties), Resilient America partnered with the Puget Sound Regional Council (PSRC) to support the integration of climate resilience policy into the Regional Transportation Plan and the Vision 2050 plan and build relationships and facilitate opportunities to share information between local, county, state, and federal stakeholders.
- Tulsa, OK, focused on partnering with the Office of Finance in the Mayor's office to explore issues of economic resilience, specifically looking at the relationship between sales tax revenues and building resilience in the community.

Based on its extensive community engagement work, Resilient America ultimately developed a community engagement process that was applied and replicated.

RESILIENT AMERICA'S APPROACH FOR WORKING WITH COMMUNITIES: THE COMMUNITY ENGAGEMENT PROCESS

Over the course of the pilot community work, the Resilient America developed and refined a community engagement process (see Box 4). This process supported communities in identifying resilience needs and prioritizing those needs, and helped build a custom set of activities to address the communities' resilience goals. In the process, Resilient America built trust in the scientific community, identified ways to help decision makers access and utilize data, and facilitated public engagement on public safety, disaster preparedness, and issues that impact quality of life. Each community was a unique exercise in resilience building. Yet, common to all of the communities was convening activities, data collection and analysis, and community engagement to identify local challenges and design approaches to meet local resilience goals or priorities.

Box 4

Resilient America Community Engagement Process

1. **Establish a ground team:** By establishing a team of stakeholders that represented a variety of community sectors (e.g., local and county government, academia, nonprofits, the private sector), Resilient America had a core group of people it met with regularly who could act as liaisons and points of contact to the larger community.
2. **Foster and build relationships, partnerships, and networks:** Building and nurturing relationships was an ongoing process throughout the community pilot partnership and it was key to effectively working in a community. *This step is important for building relationships and networks within a community (aligns with Recommendation 4, Box 1).*
3. **Identify community resilience challenges, needs, and goals:** Holding meetings and workshops that included a variety of community stakeholders ensured all voices were heard and a variety of perspectives taken into consideration. *This step is an important part of communicating, understanding, and managing risk among community members and stakeholders (aligns with Recommendation 1, Box 1).*
4. **Establish resilience baselines, identify key issues, and prioritize resilience-building actions:** Communities are interested in data that will better help them to target their resilience-building efforts. *This step is an important aspect of measuring resilience (aligns with Recommendation 3, Box 1).*
5. **Implement resilience actions:** In each community, Resilient America kick-started the process of implementing actions by facilitating a set of resilience building activities. However, it is up to the community to continue its resilience building efforts. *Through the development of resilience solutions, community stakeholders can share data and information about best practices, hazards, communication, and policies that would help them implement effective actions for building resilience (aligns with Recommendation 2, Box 1).*
6. **Provide opportunities for peer-to-peer learning opportunities and knowledge exchange among communities and with other engaged stakeholders:** This includes nonprofits, the private sector, and state and federal agencies that are working to increase the nation's resilience. *(This aligns with Recommendation 2, Box 1.)*

In all four communities, Resilient America implemented the community engagement process to meet the specific goals of each community. In some of the communities, including Cedar Rapids/Linn County and Charleston, all six steps were fully implemented. In the Central Puget Sound Region and Tulsa, which had shorter timelines and projects with a narrower scope, the process was modified. For example, in Tulsa, Resilient America focused on a specific project—the relationship between sales tax revenue and community resilience—as that was a particular priority of local government. In the Central Puget Sound,

the Resilient America's primary partner was most interested in advancing climate resiliency in a region where many jurisdictions had not yet begun planning for future climate risks. In both of these instances, the Resilient America predominantly worked with a single local organization as its "ground team." Resilient America's community engagement process is a flexible framework that provided a foundation to begin resilience discussions, better understand where a community was and where it wanted to go, and implement resilience actions. Each step in the process was tailored to the community.

1. Establish a Ground Team

The NRC 2012 report stressed the importance of the "development of broad-based community coalitions" noting that, "Rather than just an instrument to secure a community's concrete commitment to disaster resilience, the development of a broad-based community coalition is itself a resilience-generating mechanism in that it links people together to solve problems and builds trust" (p. 118). Because resilience building requires the participation of all sectors in a community, at the outset of each pilot community partnership Resilient America spent several months meeting with a variety of stakeholders, recognizing the need for a core group of committed partners from different sectors to provide sustained input and guidance throughout the partnership and feedback on the scope, priorities, and participants for various activities. Ultimately, this resulted in the establishment of a "ground team" composed of key community stakeholders that became Resilient America's primary point of contact and its liaison to the broader community (see Box 5). In Cedar Rapids, Resilient America partnered with an already established informal network of community stakeholders that developed around the response to and recovery from the 2008 flood. In Charleston, Resilient America partnered with a newly formed formal volunteer network, the Charleston Resilience Network, that had a specific mission and pursued projects that supported that mission. In the Central Puget Sound Region and Tulsa, the partnerships were with a specific organization (the Puget Sound Regional Council and the local Tulsa government). In all cases, the work would not have been possible without these partners.

2. Build and Foster Relationships

To build resilience, it is essential that community stakeholders develop and cultivate strong relationships and collaborations with other community stakeholders across diverse community sectors and across communities. In its pilot community work, Resilient America supported each community's efforts to build and enhance relationships through three mechanisms. First, it provided opportunities for networking and relationship building across the four pilot communities by hosting events that brought representatives from the communities together. Second, it provided opportunities for community stakeholders to connect with Roundtable members and other experts across the country. And third, it facilitated multi-stakeholder discussions with local community organizations, residents, stakeholder groups, and other experts to better understand the issues, context, challenges, and priorities for building resilience. Not only did this inform the pilot community work but it also provided a forum for dialogue and relationship building among diverse community stakeholders who often work in silos, but who share common interests and objectives for building resilience.

3. Identify Resilience Challenges, Needs, and Goals

Communities face multiple challenges and needs that often compete for funding and resources. Many of these challenges and needs relate to chronic stressors in the community that take precedence over preparing for a disaster that may not occur until well into the future. Therefore, establishing and prioritizing clear goals is key.

Both Cedar Rapids/Linn County and Charleston prioritized flood risks as the focus of their partnership with Resilient America. In both communities, Resilient America employed a framework that guided its stakeholder discussions along five community dimensions or capitals: physical, natural, human, social,

Box 5

Pilot Community Ground Teams

In June 2014, the Department of Homeland Security's National Protection and Programs Directorate sponsored a workshop in Charleston to better understand local climate preparedness, adaptation, and resilience efforts.⁷ The Charleston Resilience Network (CRN) formed out of this workshop, in early 2015. When Resilient America began working with the CRN, it was composed of about ten members, almost all of whom were government representatives (local, state, and federal). Since then, the CRN has grown to include stakeholders across three counties, all levels of government, academia, the private sector, nonprofits, public health, and faith-based organizations. Resilient America supported the CRN throughout its partnership by hosting convening activities, partnering on a post-event symposium, and bringing together diverse stakeholders from the region to facilitate relationship building between the CRN and other community stakeholders. Additionally, Resilient America provided opportunities for members of the CRN to participate in various knowledge exchange activities and share lessons learned with other communities across the country (e.g., at Resilient America's State of Resilience Leadership Forum and Community Workshop in Washington, DC and at the Measures of Community Resilience workshop in Cedar Rapids).

Before Resilient America began its work in Cedar Rapids, the National Academies' Committee on Increasing National Resilience to Hazards and Disasters had visited the community as it was working on the NRC 2012 report (Cedar Rapids was highlighted in the 2012 report). Resilient America leveraged the relationships that formed out of the committee's interactions with Cedar Rapids to build a local ground team. Whereas the CRN was created as a formal group of partners, the Linn County ground team was an informal network of local stakeholders. Many relationships were established in the wake of the 2008 flood in Cedar Rapids, and over time these relationships were cultivated and strengthened. For the most part, Cedar Rapids/Linn County is a close-knit community where local stakeholders have established informal relationships with each other. Because of this, the ground team was informal, composed of a group of people from multiple sectors (local and county government, private sector, nonprofit sector, academia) who were already connected.

and economic (see Appendix A for a description of the five capitals). This five capitals framework provided a foundation for several stakeholder discussions and helped to identify:

- Resilience challenges, needs, and priorities,
- Ways that communities were addressing their challenges,
- Actions the community could implement to build resilience,
- Additional stakeholders who should be part of the discussions,
- Where opportunities existed to form new partnerships to leverage resources and expertise.

4. Establish Resilience Baselines and Prioritize Resilience-building Actions

Understanding a community's resilience baseline— "where are we now?" —is key to making progress towards resilience goals. In each community, Resilient America collected data to provide a foundation for measuring progress towards meeting community goals. While each community took a different approach, data collection included some combination of surveys, community meetings, stakeholder meetings, expert interviews, the collection of quantitative data, and data analysis. Local stakeholders used results from these baseline assessments to inform their local planning efforts, identify potential

⁷ Barr, L. and S. Nider. 2015. *Critical Infrastructure & Climate Adaptation*. Available online at: <https://cip.gmu.edu/2015/08/20/critical-infrastructure-climate-adaptation/>.

resilience projects, and/or to support applications for funding. For example, the PSRC incorporated the results of the climate resiliency survey into its Regional Transportation Plan.⁸ The process of bringing together different groups, residents, and experts had the added benefit of catalyzing new collaboration and partnerships. It also provided an opportunity to communicate with local groups about their risks and the importance of preparing for those risks.

Box 6 **Resilience Building in Cedar Rapids**

One of the main resilience challenges in Cedar Rapids identified through the flood resilience baseline project was the lack of business continuity planning in the private and nonprofit sectors. To begin addressing this challenge, Resilient America hosted the NGO Disaster Preparedness Training workshop.* Representatives from 20 local nonprofit organizations participated in the training.



State Senator Rob Hogg (standing on the right) provided remarks at the NGO disaster preparedness training workshop. Brian Whitlow (standing on left) from SF Card provided the training.

Workshop attendees learned about disaster preparedness and received examples of and templates for disaster mission statements, personal family planning, skills assessment, guidance for meeting client needs, on-site supplies cache, emergency messaging, evacuation drill procedures, communication guidance, how to identify volunteer positions, Memorandums of Understanding, continuity of service, financial resources, and the incident command system.

After participating in this training, United Way promoted business continuity planning among the LAP-AID membership and implemented new disaster preparedness classes for members. For example, the Iowa Flood Center gave a presentation to LAP-AID members on how to use flood inundation maps.

**The Gazette*. July 12, 2017. "Eastern Iowa area nonprofits, experienced in disasters, examine emergency plans." Available online at: <https://www.thegazette.com/subject/news/government/eastern-iowa-area-nonprofits-experienced-in-disasters-examine-emergency-plans-20170712>.

5. Implement Resilience Actions

Action is the key to advancing resilience in a community. As one Roundtable member often said, "We need to stop admiring the problem and move into the solution." Once the community established its resilience priorities and identified potential resilience-building actions, Resilient America supported and facilitated the implementation of a resilience-building action within the community (see Box 6). The community is ultimately responsible for implementing resilience-building actions. Actions could address

⁸ Puget Sound Regional Council. 2018. "Appendix O: Resilience," from *The Regional Transportation Plan -2018*, pp. 17-32. Available at <https://www.psrc.org/sites/default/files/rtp-appendix-o-resilience.pdf>.

short- or long-term needs and could require relatively low amounts of resources, such as a targeted communication campaign to help a specific group better understand its risk or ways to increase preparedness. Actions could also be larger in scope, such as the implementation of a large infrastructure project that requires a large amount of funds and time.

6. Provide opportunities for knowledge exchange among communities and with other stakeholders.

Communities across the nation are implementing a variety of efforts to build resilience, and organizations at all levels (e.g., NGOs, the private sector, and state and federal agencies) are taking actions to address risks and increase the nation's resilience. Resilient America found that communities benefited from sharing their experiences through peer-to-peer learning (see Box 7). Resilient America also found that communities are often not aware of resources available to them for resilience building or how to access those resources. One of Resilient America's most important roles was as "resilience matchmaker," providing the catalyst for its community partners to start their resilience building efforts by connecting diverse community stakeholders with each other, facilitating dialogue and learning, helping communities identify what questions to ask, and providing access to experts and technical expertise to answer those questions.

Box 7

Knowledge Exchange: Resources for Building Resilience in the Puget Sound Region, WA

In January 2018, Resilient America and the Puget Sound Regional Council hosted a knowledge exchange between community stakeholders in the Central Puget Sound Region and representatives from federal and state agencies. Resilient America organized this event after learning from multiple stakeholders that communities did not know what resources were available to them from federal and state agencies to help them address their climate risks or how to access these resources.

Representatives from the U.S. Geological Survey, U.S. Army Corps of Engineers, Environmental Protection Agency, Federal Emergency Management Agency, National Oceanic and Atmospheric Administration, Washington State Department of Health, Washington Department of Commerce, and Puget Sound Partnerships discussed resources, tools, and funding opportunities available to local communities for resilience building.

In addition, a panel of community representatives talked about their resilience building efforts: an earthquake early warning system, climate resilience plan, floodplain management project, and creation of a climate change citizen advisory committee. One outcome of this event was that communities were able to establish relationships with federal and state agency representatives who work in the region.

It is essential that the lessons learned, data collected and analyzed, and resilience actions implemented align with a community's culture, goals, and priorities. Ultimately, the community is responsible for moving this work forward when the community pilot partnership ended. Over the course of the partnership, Resilient America sought to support the communities in establishing or continuing their own mechanisms to address their challenges and implement actions to build resilience in line with their systems and institutions, and their short-, medium-, and long-term priorities. Each community will ultimately take its own approach in institutionalizing and creating long-lasting, productive partnerships to advance their resilience efforts.

Successes, Challenges, and What We Learned

WHAT IT MEANS TO BE A RESILIENT COMMUNITY

The NRC 2012 report, which outlined a vision for what is needed to become a resilient nation, was the foundation for the Resilient America community pilot program. The 2012 report called for a paradigm shift and a new national culture of disaster resilience. It identified specific components to achieve this vision from the federal to the individual level. In addition, the report pointed to communities as the key to building resilience in the nation and identified four key recommendations for building resilience in communities. These four recommendations provided the foundation for Resilient America's pilot community work. Implementing these recommendations and working collaboratively with the pilot communities required new approaches and innovative thinking. Resilient America drew upon traditional National Academies convening activities coupled with a novel approach for stakeholder engagement, and tested and applied different approaches for working with communities. In addition, Resilient America facilitated opportunities for broader interaction and learning across communities.

Community stakeholders often commented on the value of Resilient America's convening activities for bringing together community stakeholders who never or rarely worked together, connecting them through a shared understanding of the importance of resilience to the community, helping build new relationships across community sectors, and expanding a community's network by linking it with other communities.

Many of the elements identified in the NRC 2012 report for building a culture of disaster resilience resonated with what Resilient America heard from communities. Community stakeholders identified the need for individual responsibility for risk, better and more accessible data, measuring progress, and capacity building. However, Resilient America also found that community decision makers and stakeholders lack the time and resources to devote to resilience building and lack opportunities to learn from their peers, both within their community and across communities. Many of the communities that participated in Resilient America activities (e.g., meetings, workshops, conferences) do not understand how to work effectively with federal or state agencies to access resources or support their mitigation and preparedness efforts. While communities agreed on the importance and need for building resilience, they also need support, incentives, and opportunities to advance their efforts.

A Vision for a Resilient Nation*

1. *"Taking responsibility for disaster risk;*
2. *Addressing the challenges of establishing the core values of resilience in communities, including the use of disaster loss data to foster long-term commitments to enhancing resilience;*
3. *Developing and deploying tools or metrics for monitoring progress towards resilience;*
4. *Building local, community capacity because decisions and the ultimate resilience of a community are driven from the bottom up;*
5. *Understanding the landscape of government policies and practices to help communities increase resilience; and*
6. *Identifying and communicating the roles and responsibilities of communities and all levels of government in building resilience."*

**From the NRC 2012 report, p. 2.*

Though some lessons learned were place-specific, Resilient America found that communities share common challenges and needs in understanding, addressing, and reducing risk and building resilience. They also benefit from being able to exchange information and learn from one another's experiences with taking on these challenges. Although the lessons learned about becoming a resilient community apply to the unique circumstances of the Resilient America's pilot communities, they provide valuable insight for other communities around the nation and internationally.

WHAT COMMUNITIES TOLD US THEY LEARNED

Some of the lessons the communities learned through their participation in the Resilient America community pilot program include:

Becoming resilient requires a culture change. In order for resilience to stick, change has to come from within the community, from both its leaders—especially within local government—and the general population. For that to happen, people need to understand what they have to do to become resilient and how their actions impact resilience.

Relationships are key. Building resilience requires relationships, both formal and informal, among key stakeholders of the community. This enables the identification of key priorities, common goals, and who is responsible for implementing the various resilience efforts. It also ensures that a diverse range of stakeholders and groups across the community can be reached through community engagement efforts. People tend to work in their own silos but it is important to connect across community sectors to identify common goals and opportunities for leveraging resources. Relationships depend on trust, both of which can take a long time to develop.

What Communities Learned about Resilience

- Becoming resilient requires a culture change.
- Relationships are key.
- Building resilience requires engaging stakeholders across diverse community sectors.
- Building resilience requires building trust.
- Communities struggle with how to effectively communicate risk.
- Addressing social equity and the needs of vulnerable populations are critical for building resilience.

Building resilience requires engaging stakeholders across diverse community sectors. Diverse voices are needed as part of the resilience discussions, and building resilience requires buy-in from everyone in the community. One way to gain community buy-in is through community engagement. For example, diverse stakeholders can be engaged to align interests, identify common ground, connect with related work in the community, and leverage resources. Resilient America was able to provide opportunities for diverse stakeholders who had never connected before to participate together in a variety of resilience-related activities and discussions.

Building resilience requires building trust. Community support for resilience-building activities requires the trust of community members—in its leadership and decision makers, in its institutions and organizations, and in each other. Trust is founded on strong relationships. Resilient America itself had to build trust with local decision makers and stakeholders in order to work effectively at the community level. Through multiple visits, meetings, and activities over many months, and in some cases years, Resilient America was able to form strong relationships and build trust with a core group of key stakeholders in each community that enabled Resilient America to overcome challenges, leverage opportunities for consistent interaction, and effectively tailor projects according to community needs.

Building relationships and trust is not easy, and it takes years to do, especially for individuals and organizations that come from outside the community.

Communities struggle with how to effectively communicate risk. Understanding risk is consistently identified as one of the top needs and priorities at the community level: what the risks are, who is at risk, what is at risk, how to communicate those risks, and how to mitigate those risks. How to effectively communicate risks proved to be difficult for most communities.

Addressing social equity and the needs of vulnerable populations are critical for building resilience. All communities recognized the disparity between the resilience levels of those with economic means or political power and those without. All of the pilot communities recognized that the resilience of a community could be understood and viewed through the lens of the resilience and well-being of its most vulnerable residents. Building community resilience can be very difficult for people whose primary focus is dealing with day-to-day stresses and challenges.

WHAT RESILIENT AMERICA LEARNED THROUGH ITS WORK IN COMMUNITIES

Resilient America learned several lessons through the diverse activities it participated in and hosted. Roundtable members and staff worked directly with the four pilot communities in the partnership program, continuously engaged with a network of other communities and diverse experts and practitioners that participated in Resilient America convening activities, and facilitated knowledge exchanges and peer-to-peer learning opportunities. Some of the most important lessons included:

The concept of resilience strongly resonates with communities. Over the last decade, resilience has gained significant traction across the nation and it continues to be incorporated into programs at the federal, state, and local levels; at nonprofit organizations; and in the private sector. The momentum of implementation and action being undertaken in communities should continue to be fostered and expanded. Fundamentally, community resilience is about finding ways to maintain and elevate the quality and protection of life of community residents, and the implementation of resilience on the ground is a mix of addressing the episodic disasters and disturbances and the everyday challenges that local decision makers face. Due to the changing social and political conditions in the United States, supporting local action is essential.

Being resilient means something different in each community. Communities approach resilience based on their own values, goals, priorities, and challenges. Communities want to be resilient and many communities share common challenges. But what resilience means within the context of a specific community and how it implements resilience actions differs across communities.

Local commitment and support is one of the most important criteria for building resilience. This commitment can be seen via key decision makers' and stakeholders' willingness to work together to build resilience over time. Becoming resilient requires a culture shift and that shift starts at the local level. One lesson was that sometimes even the most committed communities need a catalyst to get the resilience ball rolling. For many communities, such as Cedar Rapids, the experience of a disaster itself acts as a catalyst for instituting change and building resilience to future disasters. In others, such as Charleston, a small group of local stakeholders come together in a common understanding of the importance of community resilience and may need an individual or entity (such as Resilient America) to help catalyze the community's focus on resilience. Ultimately, a community needs to continue working together and committing resources to resilience efforts after the catalysis ends.

Communities have a difficult time figuring out how to start the resilience building process. It is really hard for communities to understand how to take action for resilience. Resilient America developed an approach for working with communities that provided a flexible framework for guiding communities in their resilience-building efforts. This approach can be tailored for use by any community.

When it comes to resilience, the process of building resilience may be more important than the specific outcomes. The process of building resilience—for example, through cultivating relationships, identifying challenges and priorities, and engaging the entire community in discussions—is an important act of strengthening resilience. Resilient America received much positive feedback from community stakeholders about how its convening activities to build resilience have created awareness about the importance of resilience and what the community is doing to address it, built new relationships among local stakeholders, and brought new partners into the process.

Communities need to know their starting point in order to know whether or not they are making progress toward their goals. If communities want to measure progress towards meeting resilience goals, they need to understand what their starting point (i.e., baseline) is and what their desired end point is. That said, many communities either do not or feel they do not have the resources or capacity to measure resilience.

Resilience needs to be mainstreamed into existing budgets, plans, and operations. People are time- and resource-constrained, so it is important to work within the capacity of a community's resources and time and build resilience into existing efforts.

There is no resilience without economic resilience. A common theme heard in communities was the importance of economic resilience as much as or more so than disaster resilience. Economic aspects of resilience included discussions around development, tourism, the workforce, insurance, mitigation, investments, local budgets, and supply chains. Fragility in any of these areas puts a community at risk to experience a loss of livelihood, tax base, or income which could trigger a cascade of other risks and problems that could reverberate into the most fundamental functions of government or society. These economic dimensions of resilience play into various national interests (e.g., National Flood Insurance Program, mitigation, and logistics) and local interests (e.g., the tax base, outside investment, local development). On the other hand, even absent strong economic conditions, communities rebuild through sweat equity projects and by leveraging partnerships and resources among nonprofits, including faith-based groups, to recover and revive after disasters.

What Resilient America Learned Through its Work in Communities

- The concept of resilience strongly resonates with communities.
- Being resilient means something different in each community.
- Local commitment and support is one of the most important criteria for building resilience.
- Communities have a difficult time figuring out how to start building resilience.
- When it comes to resilience, the process of building resilience may be more important than the specific outcomes.
- Communities need to know their starting point in order to know whether or not they are making progress toward their goals.
- Resilience needs to be mainstreamed into existing budgets, plans, and operations.
- There is no resilience without economic resilience.
- Risk and resilience issues cross political and geographical boundaries.
- Climate change and other trends are poised to concentrate risk in communities.
- The involvement of Resilient America Roundtable members from the federal government, who sponsored this work, was uniquely important.

Risk and resilience issues cross political and geographical boundaries. While the community pilot program focused initially on four separate communities in the United States, Resilient America was able to interact with many more communities through the National Academies Policy and Global Affairs Division's Office of Special Project's (OSP) broader work. OSP conducted activities in more than a dozen communities that included major metropolitan areas like New York City, Houston, Chicago, New Orleans and Phoenix, as well as smaller towns and rural communities including Waveland, MS; Pine Ridge Reservation, SD; Arlington, WA; and Walker, IA. Outside of the United States, OSP had partnerships with other organizations and experts in Japan, Argentina, Germany, Belgium, and Switzerland, and multi-lateral organizations like the World Economic Forum, NATO, and the United Nations. The universality of resilience messages underscores that the Resilient America Program has applications and utility in domestic, regional, and international arenas.

Climate change and other trends are poised to concentrate risk in communities. Climate change, sea level rise, heat waves, wildfires, more frequent and costly disaster events, greater social inequity, urbanization, and population movement to coastal and other high-hazard areas are trends that impact communities and the nation. These trends portend a concentration, not a diffusion, of risk despite increasingly sophisticated tools and understanding of what and who are at risk. There is a gap between what is known about risks and what actions decision makers should take to address those risks. For some communities, there is a sense of urgency to address the impacts of these trends; for others, the impacts are too gradual for its community members to take action even though they may recognize them. In either case, decision makers want the best science and data to help them better prepare and plan for these current and future hazards. There is a need to address topics that can highlight short-term and long-term options for decision makers to help them manage and mitigate the risks for today and in the future.

The involvement of Roundtable members from the federal government, who sponsored this work, was uniquely important. Their participation in various activities enabled a two-way interaction between the federal sponsors and community stakeholders, with federal participants gaining firsthand knowledge about the needs and challenges faced by communities and how they are (or are not) addressing their risks. Conversely, local decision makers and stakeholders had direct access to representatives from federal agencies (e.g., DHS, FEMA, NOAA, USGS) who could provide information on available resources, established approaches for resilience building activities, and clarity on relevant policies (e.g., NFIP, National Mitigation Framework).