

READINESS FOR RESILIENCE

A Smart Infrastructure Program

With Partners: Smart**Cities**Council



The Need for Smart, Resilient Infrastructure

Is your community concerned about the seemingly increasing number of natural disasters occurring around the country, the intensity of these storms, and the resulting damage and destruction? Your community has cause to be – the data backs it up.

According to Deke Arndt, chief of the monitoring branch at the National Oceanic and Atmospheric Administration's (NOAA) National Centers for Environmental Information, "We have had about twice the number of billion dollar disasters than we have in an average year over the last 40 years or so."

The NOAA report states that there were 14 weather and climate disasters with losses each exceeding \$1 billion during 2018. About \$73 billion of this total was attributable to three events: Hurricanes Michael (\$25 billion) and Florence (\$24 billion), and the complex of western wildfires (\$24 billion).

Yet 2018 did not set the record for the most expensive year for such disasters. That distinction belongs to 2017, when Hurricanes Harvey, Irma and Maria—combined with devastating Western wildfires and other natural catastrophes—caused \$306 billion in total damage. They were part of a historic year that saw 16 separate events that cost more than \$1 billion each.

Hurricane Harvey, which sparked extreme flooding in Houston and the surrounding area in August and September, caused \$125 billion in damage, the year's most expensive disaster. Hurricane Maria, which in September set off a fatal and ongoing humanitarian crisis in the U.S. territory of Puerto Rico and elsewhere, caused \$90 billion in damage. Hurricane Irma raked across the Caribbean and hit Florida in September, causing \$50 billion in total damage.

The Opportunity

The unfortunate events related to this increase in natural disasters, and the resulting need to rebuild in the affected communities, offers the opportunity to re-evaluate and update policies and procedures related to critical infrastructure, ultimately enabling cities and communities to more efficiently deploy best practices and smart technology solutions that serve to increase the resiliency of critical infrastructure in impacted communities.

As stated by Puerto Rico Governor Ricardo Rosselló, "We can either execute the same things that have been done in the past and continue on the downward spiral, or we can take the opportunity to be bold, think outside the box, get the best available minds to come to Puerto Rico and definitely change the path that we were heading on both from an economic perspective, but more importantly a social perspective. ... The potential of what we can achieve here is great."



In fact, in response to the devastating hurricane season of 2017, a new partnership was formed to establish the "Readiness for Resilience" program designed to do exactly that in Puerto Rico and Texas. This program, sponsored by Qualcomm, is led by the Smart Cities Council along with partners the Business Council for Sustainable Energy and the National Association of State Energy Officials. The Partners work directly with the Office of Governor Ricardo Rosselló, Puerto Rico; and Texas A&M AgriLife Extension, appointed by Texas Governor Greg Abbott to lead the hurricane recovery effort.



The Program

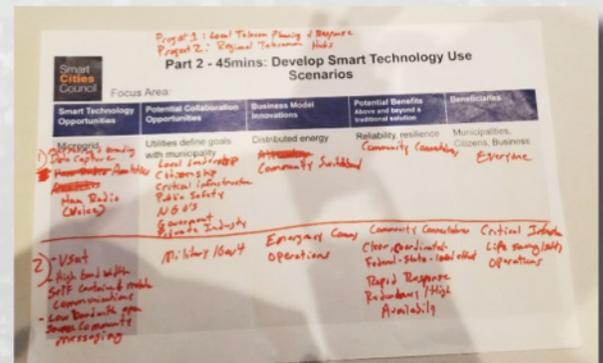
Phase I: Discover and Learn Local Needs

The Partners, as 'trusted advisors' to cities and communities, would explore the rebuilding needs and timing for rebuilding assistance in affected localities. The Partners and affiliated members participating in the Program are provided the opportunity to partake in the Discovery Workshop(s) and provide best practice and technical advice related to the needs identified by affected localities. The SCC has a successful track record of facilitating working partnerships with cities and technology providers through the Readiness Challenge Grant program, which will serve as a guide post.



Phase II: Analyze and Roadmap Rebuilding

Along with discovery, the Partners will take best practices from rebuilding after similar disasters and combine them with technology solutions to develop Resiliency Roadmaps highlighting short-, medium-, and long-term approaches to rebuilding resiliently and compassionately. The SCC will use as a template its Readiness Guide, which is used globally to educate cities about using smart technologies to make cities livable, workable and sustainable. Many of these same technologies and solutions can be utilized to help make cities more resilient to natural disasters and, importantly, capable of quick restoration and recovery.



Phase III: Stakeholder Advice and Support

The Partners will facilitate Resiliency Workshop(s) to provide best practices and technical advice as outlined in the Resiliency Roadmaps and related to the rebuilding needs identified by affected communities. These Resiliency Workshops would involve key public/private stakeholders to identify specific projects and funding sources and encourage the formation of public-private-partnerships to move such projects forward to make cities and communities more resilient to natural disasters, and importantly, capable of quick restoration and recovery.



Multiple Levels of Engagement

The Partners will help educate affected communities through different levels of outreach—from statewide to project-specific initiatives. Based on our experience with the states, we have learned there are opportunities to engage holistically involving many different government agencies. This allows for aggregation of demand and better procurement of solutions statewide. Correspondingly, at the other end of the spectrum, identifying specific infrastructure projects years away from procurement provides time for interaction and education between project managers and the Partners. This allows for the exploration of best practices, financing options and newer available technologies.



Why Should Your Community Participate?

- Significant increase in the capacity of workshop participants to achieve smart, resilient rebuilding goals.
- Shared knowledge and improved alignment among key stakeholders, enhancing opportunities for efficiencies and synergies between smart infrastructure investments.
- Improved understanding of smart technology options and benefits; improved ability to prioritize and justify investments and accelerate implementation.
- Opportunity to integrate instrumentation and controls and ICT into existing projects and thus accelerate benefits and return on investment.
- Introduction to global technology solution providers.
- Business partnerships resulting from networking between communities and global ICT sectors.
- Potential financial investment into communities for smart city and smart and resilient infrastructure projects.

References:

Billion-Dollar Weather and Climate Disasters:
<https://www.ncdc.noaa.gov/billions/>

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