

# NIST COMMUNITY RESILIENCE PLANNING GUIDE **SUCCESS STORY**

## FORT COLLINS, COLORADO



### STAKEHOLDER QUOTE

*"Actions to improve resilience can offer immediate dividends beyond resiliency. That's why we are planning now and moving forward in ways that reflect our community's priorities. The NIST Guide is a very helpful tool for doing just that."*

- Gerry Horak,  
Ft. Collins Mayor Pro Tem

### HIGHLIGHTS

- **Collaborative Planning Team engaged over 40 stakeholder groups to identify dependencies and understand hazards.**
- **RRAP Team delivered a dependency mapping tool to Fort Collins that demonstrates how failures will have consequences in other parts of the community.**
- **RRAP Team provided set of options to the city to become more resilient.**

### SITUATION

The Fort Collins area has experienced multiple significant hazard events. In 1997, 10 to 14 inches of rain over 31 hours resulted in over \$200 million in flood damage. The High Park Fire in June 2012 burned 87,284 acres, exacerbating flood risks. Colorado's Front Range experienced a September 2013 extreme rainfall event and subsequent flooding, causing nearly \$4 billion in damage across 24 counties. The City and Larimer County collaborated to address key hazards identified by community stakeholders: flooding, wildfires, train derailments/chemical spills, and long duration power outages.

### PROCESS

The City and County collaborated to implement the first four steps in the NIST Guide as part of the Department of Homeland Security (DHS) Regional Resilience Assessment Program (RRAP), with support from Idaho National Laboratory. A collaborative planning team was led by an Emergency Management Coordinator from Larimer County and supported by the Emergency Management Director of Fort Collins.

The effort engaged community stakeholders from eight Social Functions identified in the NIST Guide (economy, education, health, family, government, religious and cultural beliefs, media, community service) and four Utility Groups (water, wastewater, power, communications). INL mapped dependencies and the RRAP team evaluated the impact of flooding and wildland-urban interface as the primary hazards, and developed performance goals and determined anticipated performance by developing dependency maps to evaluate system level response and identify areas where gaps existed.

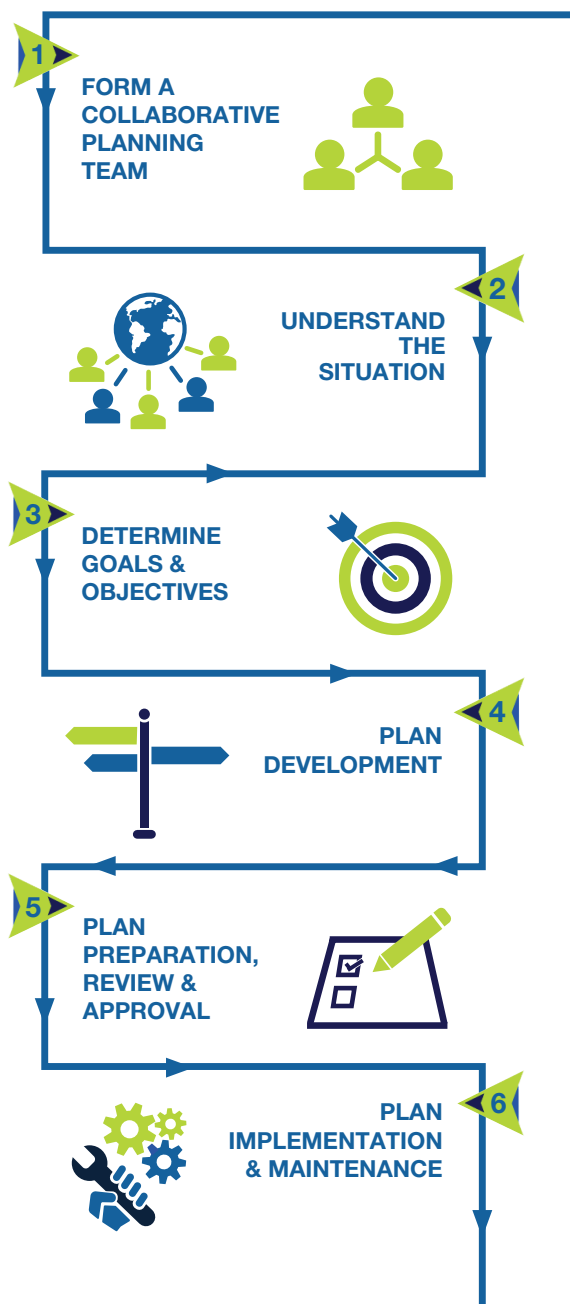
### RESULTS

The RRAP team determined Fort Collins' anticipated performance by developing detailed dependency maps. These maps allowed the team to evaluate system level response and identify areas where there were gaps that, if addressed, could lead to improved resilience.

The RRAP team provided Fort Collins with a set of options to improve resilience. Since Fort Collins is active in planning, these options were presented such that they can be incorporated into other plans for implementation. The RRAP team provided the city with a dependency mapping tool, implemented in ArcGIS, that will allow the city to consider dependencies when considering future projects.

When communities decide to become more resilient, they need an approach that helps them identify and prioritize options consistent with their goals. The National Institute of Standards and Technology (NIST) Community Resilience Planning Guide for Buildings and Physical Infrastructure Systems helps communities do that, by focusing on the role of the built environment in enabling the community to rapidly recover from disruption. It provides a clear process for communities to better prepare for the future.

## SIX-STEP PLANNING PROCESS



### Step 1

- The collaborative planning team should consist of local representatives who understand and accept the value of community resilience planning, are committed to the process, and are able to champion resilience and engage the relevant stakeholders.
- It is important to socialize the resilience planning concept ahead of time to build support.
- Endorsement by elected leadership is essential.
- It is important for the collaborative planning team to receive periodic updates on the analysis when external organizations are performing the analysis.

### Step 2

- It is important to identify the lifeline service providers and contacts for the region as soon as possible once the project begins.
- Addressing concerns about information exchange and security with lifeline service providers is critical to their participation.
- For each social function identified in the NIST Guide, the Collaborative Planning Team should have a point of contact who can assist with detailed understanding of that function and the associated local attributes and dependencies.

### Step 3

- Use the existing data and information from other plans to determine priorities for building and infrastructure performance.
- Local GIS resources can be especially helpful to resilience planning efforts, particularly when it comes to understanding and interpreting data.

### Step 4

- Incorporating proposed actions to improve resilience into existing city planning processes for implementation is valuable.

## WHAT'S NEXT?

The RRAP team delivered a dependency mapping tool to Fort Collins that depicts the dependencies and the consequences of failure that allow stakeholders to see and understand how these dependencies could impact their ability to deliver services following a hazard event. The RRAP team also provided a set of options to the city to improve resilience. These options will be considered for implementation by the city. The dependency mapping tool will be used by the city to consider dependencies when planning future infrastructure projects.

## CONTACT INFO/RESOURCES

**Community Contact**  
Gerry Horak  
Mayor Pro Tem

**Fort Collins Resilience Planning**  
<https://citiesspeak.org/2016/07/18/how-the-city-of-fort-collins-is-making-community-resiliency-a-reality/>

**NIST Community Resilience Program**  
<https://www.nist.gov/topics/community-resilience>

**NIST Contact**  
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