



# INFRASTRUCTURE RESILIENCE PLANNING FRAMEWORK

## APPLICATION TO FEDERAL GRANTS



## INTRODUCTION

The Cybersecurity and Infrastructure Security Agency's (CISA) [Infrastructure Resilience Planning Framework \(IRPF\)](#) is a voluntary, 5-step approach developed to assist local and regional planners with planning for the resilience of critical infrastructure. The IRPF provides guidance and resources for engaging diverse stakeholders, identifying critical infrastructure, assessing dependencies and risks, developing solutions, and implementing actions that enhance resilience.

## CASE STUDY

Multiple federal programs are directed to help state, local, tribal, and territorial governments invest in and mitigate risk to critical infrastructure. Program-specific requirements and limited local capacity could, however, restrict program access and effectiveness, especially for the smaller governments that serve most of rural America. Applying the IRPF can help local and regional governments secure funding to enhance long-term resilience, as illustrated by the experience of a multi-county regional planning and development organization in Kentucky.

## USE OF THE IRPF

The Green River Area Development District (GRADD) provides pre- and post-disaster planning and grant writing for its member counties, cities, and utility districts in northwestern Kentucky. Despite frequent and recent flood disaster declarations in Kentucky, GRADD had been unsuccessful in helping a small city (approx. pop. 1,000) obtain federal funding to mitigate the potential breach of a river levee whose failure would be catastrophic to the regional economy. That was until GRADD's use of CISA's IRPF to assess water infrastructure dependencies provided new insights and collaboration that enabled the city to overcome project funding eligibility, cost, and administration barriers.



### *Project Eligibility Justification*

The water system dependency analysis GRADD performed using IRPF resources showed how levee failure in the next anticipated flood event would overwhelm the city's water treatment plant thus disrupting service to dependent critical manufacturing facilities. This essential analytical evidence was critical to overcoming the customary requirement that projects submitted for the Federal Emergency Management Agency (FEMA) post-disaster hazard mitigation grant program (HMGP) funds address an asset that was actually damaged in the authorizing disaster event.

### *Analysis to Justify Project Benefits*

The biggest obstacle to securing an HMGP grant was the requirement to document a project benefit-cost ratio of at least 1.0. GRADD and the city of Hawesville used the IRPF dependency analysis to document not only the direct consequences of a levee breach on the immediate area, but the secondary impacts or cascading consequences to regional health, safety, and economy. This analysis made the wider benefits of the project clear. If the levee was breached, flood waters would overwhelm pumps at the city's water treatment plant, which not only provides drinking water to city residents, but is also essential to the operations of a coal mine and a high-grade aluminum factory supplying approximately 2,500 jobs to the region. GRADD provided this dependency analysis information to the State Division of Water, which was then able to help quantify the overall cost of a levee failure and benefit of levee mitigation. Including avoided loss of essential water services as a benefit enabled the project to achieve the required 1.0 benefit-cost ratio.

### Garnering Matching Funds and Administrative Support

For small and/or rural jurisdictions who often have minimal resources and capacity, having matching funds and meeting project administration requirements of federal grants are big obstacles. Although the matching funds requirement is reduced for rural and/or distressed communities, the city did not have available funds to meet the match. GRADD's analysis of critical system dependencies created an awareness of the broad benefits of the levee project and a mutual interest in solving the city's capacity problem. Seeing the importance of the water treatment plant to the regional economy and county residents, the county offered to apply for and administer the project grant for the city. In addition, the commonwealth recognized the project's value and loaned the county state flood control dollars to meet half of the required matching funds amount.



### OUTCOMES

Outcomes of GRADD's use of the IRPF to support project funding applications include:

- Success by a small city in overcoming common obstacles to obtaining federal program funding:
  - Eligibility constraints – GRADD's IRPF-assisted analysis provided justification for why FEMA post-disaster hazard mitigation funds should support protection of critical infrastructure that had not been damaged in an authorizing disaster event but was vulnerable to a future event.
  - Benefit-cost ratio justification – By using the IRPF to focus on critical Infrastructure system's and consider upstream and downstream dependencies, additional benefits of the levee mitigation project were discovered.
  - Matching funds requirements – Because GRADD was able to identify regional infrastructure-related benefits of what originally appeared to be only a localized mitigation project, the broader beneficiaries (the county and state) stepped-in to help bear the cost.
  - Project administration limitations – As a result of identifying additional project beneficiaries, one with greater capacity than the city was able to take on the role of grant administrator.
- More effective use of HMGP funds through supporting a project that would not simply restore damaged systems but ultimately enhance long-term resilience by mitigating vulnerabilities that remained and better prevent future costs of a disaster.

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