

Case Study:

Flash Flooding

Impact of Community Participation and Planning on Recovery

Goal: Evaluate the impact that pre-disaster planning and community participation had on shaping economic recovery after a dangerous flood in a historic city.

Context

Ellicott City is an unincorporated town in Howard County, Maryland. Founded in 1772 at the bottom of a valley by Johan and Joseph Ellicott, specifically to harness the power of the Tiber and Patapsco Rivers to power the brothers' mills, the terrain of the city includes steep inclines and an abundance of nonporous granite. The town has been prone to flooding since its founding, with most previous floods originating from the Patapsco River at the bottom of the valley and spreading into the city.

On July 30, 2016, Ellicott City was caught in a two-hour deluge that dropped six inches of water. As a result, a volume of water large enough to fill an eighty-story tall, one-acre building surged out of the tributaries above the town and gushed through the historic district along Main Street. The water affected 104 businesses and 90 homes, wrecking the economic heart of the city.

As a result of the flood, Ellicott City experienced \$67.2 million in reduced economic activity, a reduced labor income of \$27.2 million from a loss of 151 jobs, and an approximate decrease in county government revenue of \$1.3 million. The President signed a major disaster declaration for Howard County 48 days later. The county received Public Assistance (PA) and Hazard Mitigation (HM) funds, as well as a Small Business Administration (SBA) emergency loan qualification.

Key Partners

- One EC Recovery Project
- Maryland Emergency Management Agency (MEMA)
- Maryland Voluntary Organizations Active in Disaster (Maryland VOAD)

Special Considerations

Prior to the flood, Howard County Office of Emergency Management (OEM) staff had attended a FEMA training that assisted OEM in formulating and documenting a Recovery Framework which identified 10 Recovery Support Functions (RSFs) crucial to local disaster recovery. OEM received buy-in from all agencies identified in the Recovery Framework to lead the 10 RSFs.



FEMA

Howard County's Six Guiding Principles for Recovery

1. **Healing:** Foster the healing process for community members through the access of a wide range of social and financial resources.
2. **Economy:** Expedite business recovery and restore long-term economic growth.
3. **Stability:** Find immediate and long-term housing solutions for residents displaced by the flooding.
4. **Rebuilding:** Rebuild Historic Ellicott City with an emphasis on resilient infrastructure through flood mitigation.
5. **Preservation:** Preserve Historic Ellicott City's unique and cherished architectural characteristics that have always attracted visitors.
6. **Environment:** Pursue and implement projects that ensure the continued vitality of our natural resources in pursuit of sustainable quality of life.

Actions Taken

Within 24 hours of the flood, the county restricted access to damaged areas, began stabilization work, and brought in an Incident Management Team (IMT). Lori Hodges, a Director of Emergency Management in Colorado, was a crucial member of the IMT. Hodges had previously experienced similar flooding in her home county, and her insights allowed Howard County leadership to anticipate and begin problem-solving previously unforeseen challenges.

Expediting economic recovery was a key priority. A major contribution from the Howard County Economic Development Authority (HCEDA) was to conduct "micro-missions," escorting affected residents into the disaster area in four-wheel utility vehicles. As a direct result of these micro-missions, HCEDA determined that SBA loans were unsuited to address recovery needs in Ellicott City and instead qualified individuals for gap-loans from HCEDA. HCEDA also assisted with flood insurance questions and helped struggling business owners rework their business models. Finally, to jumpstart businesses reopening, Howard County waived \$38,000 in fees and expedited 203 permits.

Howard County also worked to identify volunteer organizations and community leaders like Pastor Adam Feldman. Feldman led the volunteer effort in Ellicott City and helped create One EC, a local

nonprofit started in response to the flood. One EC acted as a local VOAD by working directly with Howard County and coordinating all other volunteer organizations. The IRS fast-tracked One EC's 501(c)3 nonprofit application because of the organization's focus on recovery.

Within 48 hours of the flood, the County Executive conducted a Town Hall meeting, bringing impacted residents and businesses together with state and local representatives. Within days, the Recovery Framework was approved for use, and soon afterwards, Howard County hired a Recovery Manager to coordinate the recovery mission.



Figure 1: Howard County leaders survey the damage to Historic Ellicott City.

The Department of Planning and Zoning (DPZ) held four community meetings, hosted in the fall and winter of 2016. These meetings addressed the perception that development worsened flooding, explained that mitigation takes time and resources, and provided a forum for feedback. In total, DPZ received 223 ideas from the community for consideration in their Master Planning process. The project ideas were compiled, categorized and published in a report on recommendations to the County by the Community Advisory Group (CAG), which acted as a bridge between the County government and the community in the recovery process. The project ideas will inform the development of the Master Plan.

National experts estimated eight to 10 years for Howard County to reach full recovery. This estimate and the six guiding principles influenced Howard County's decision-making towards favorable outcomes. For example, workers requested "gawkers" be kept away from the disaster zone, as they hampered work and presented safety concerns. To solve this issue, Howard County produced a weekly video showing residents the ongoing repair work in the affected area.

Results

Approximately 95 percent of the affected businesses in Ellicott City reopened by November 25, 2017, "Small Business Saturday." The county

also opened the Millworks Business Resource Center, a business incubator and one-stop-shop for business-related recovery questions in Historic Ellicott City that served as a source of continued outreach for Howard County residents.

The micro-missions deployed immediately after the disaster assessed initial damage, allowed citizens to retrieve portable valuables, and eventually allowed property owners to survey the damage with contractors. Over the first 45 days of recovery, HCEA burned through 4,000 extra man-hours, but also successfully established trust with the community.

The recovery efforts also created a new network of support that Howard County can rely on in future disasters. One EC is transitioning to move beyond flood recovery and provide assistance that bridges the gap between governmental resources and community needs.

On May 27, 2018, Ellicott City suffered another severe flood event, killing one individual, damaging many shops and businesses for the second time in less than two years. As of August 2018, the County proposed a five-year strategy to mitigate flooding in Ellicott City, including a core component that would address the most immediate life safety threat on the town's lower Main Street within one year. The community will be engaged through the Master Plan process to provide input into the design and use of a proposed new open space to be established in the floodplain in the area.

Lessons Learned

- Involving residents in the recovery process from the beginning and promoting consistent, visible action tied to clear communication is essential to build trust in the recovery process.
- It is important to manage expectations for critical issues, such as funding decisions and work completion deadlines, to maintain trust.
- Identifying appropriate communication channels to reach residents, such as distributing flyers door-to-door, can increase community buy-in.
- Building pre-disaster partnerships among government agencies and other organizations now will help expedite coordination efforts during post-disaster recovery.
- Development of a pre-disaster recovery plan with an established structure of predefined roles and actions can allow for quick response after a disaster and a more organized and expeditious recovery.

Additional Resources

[Ellicott City YouTube Video](#)

[Howard County: Ellicott City Flooding Website](#)

[Howard County Stormwater Management Division](#)

[MEMA Recovery Planning Toolkit](#)