

Benefit / Cost Analysis

The What, Why and How of a Benefit / Cost Ratio

What is a Benefit / Cost Analysis?

- A Method of Determining the Cost Effectiveness of a Project Over Time
- Benefits Must Exceed Costs For a Project to be Considered Cost Effective
- A Ratio Where Benefits are Divided by Costs With a Result of 1.0 or Greater Being Considered Cost Effective

The Why of a Benefit / Cost Analysis

- Requirement of the Robert T. Stafford Disaster Relief and Emergency Assistance Act as Amended (Title 42 U. S. Code 5170c)
- Ensure that Projects are Not Wasting Taxpayer Funds on Ineffective Measures
- Provides a Means of Prioritizing Projects Allowing the States to Assume the Higher Ground When Project Submissions Exceeds Available Funds

The How of a Benefit / Cost Analysis

- There Are Four Ways to Achieve a 1.0 or Greater Benefit / Cost Ratio
 - ❖ Use of FEMA's BCA Toolkit
 - ❖ Substantial Damage Automatic 1.0
 - ❖ Use of FEMA's 5% Initiative (HMGP ONLY)
 - ❖ Use of FEMA's New Cost Effectiveness Policy Dated October 15, 2013 (HMGP ONLY)

FEMA's BCA Toolkit

➤ This Method is the Most Accurate Giving an Exact Ratio and Required for FMA and PDM

❖ Requirements:

- The Full Module Requires A Detailed Flood Insurance Study. Missing Information Will Require Use of the Damage Frequency Assessment Module
- Detailed Survey and Certified Appraisal
- Building Replacement Values and Full Photography

❖ Pros and Cons:

- Pros – Definitive Ratio That Can be Defended and it Fulfills the FMA and PDM Requirements Making Projects Cross Program Compliant Allowing Aggregation Options
- Cons – Expensive and Time Consuming Requiring Extensive Documentation

Substantial Damage Automatic 1.0

- Structures Designated by the Community Gain an Automatic 1.0 Ratio Reflecting the Probability That it is Likely to be Repetitive if Allowed to be Repaired
 - ❖ Requirements:
 - Use of FEMA's Substantial Damage Estimator Software and a Declaration Letter From the Community
 - ❖ Pros and Cons:
 - Pros – No Further Documentation is Required Once Substantial Damage is Confirmed
 - Cons – Requires Damage From a Disaster Meaning Someone Has Suffered a Flood Within the Period of Availability and Invokes the Community's Substantial Damage Clause in Their Floodplain Ordinance as Well as Duplication of Benefits

5% Initiative (HMGP ONLY)

➤ FEMA Allows 5% of Available Funding for Projects That a Benefit / Cost Ratio Cannot be Ascertained in the Hazard Mitigation Grant Program ONLY

❖ Requirements:

- Sound Reasoning Why a Ratio Cannot be Determined and Proof That the Action is a Reasonable Mitigation Effort

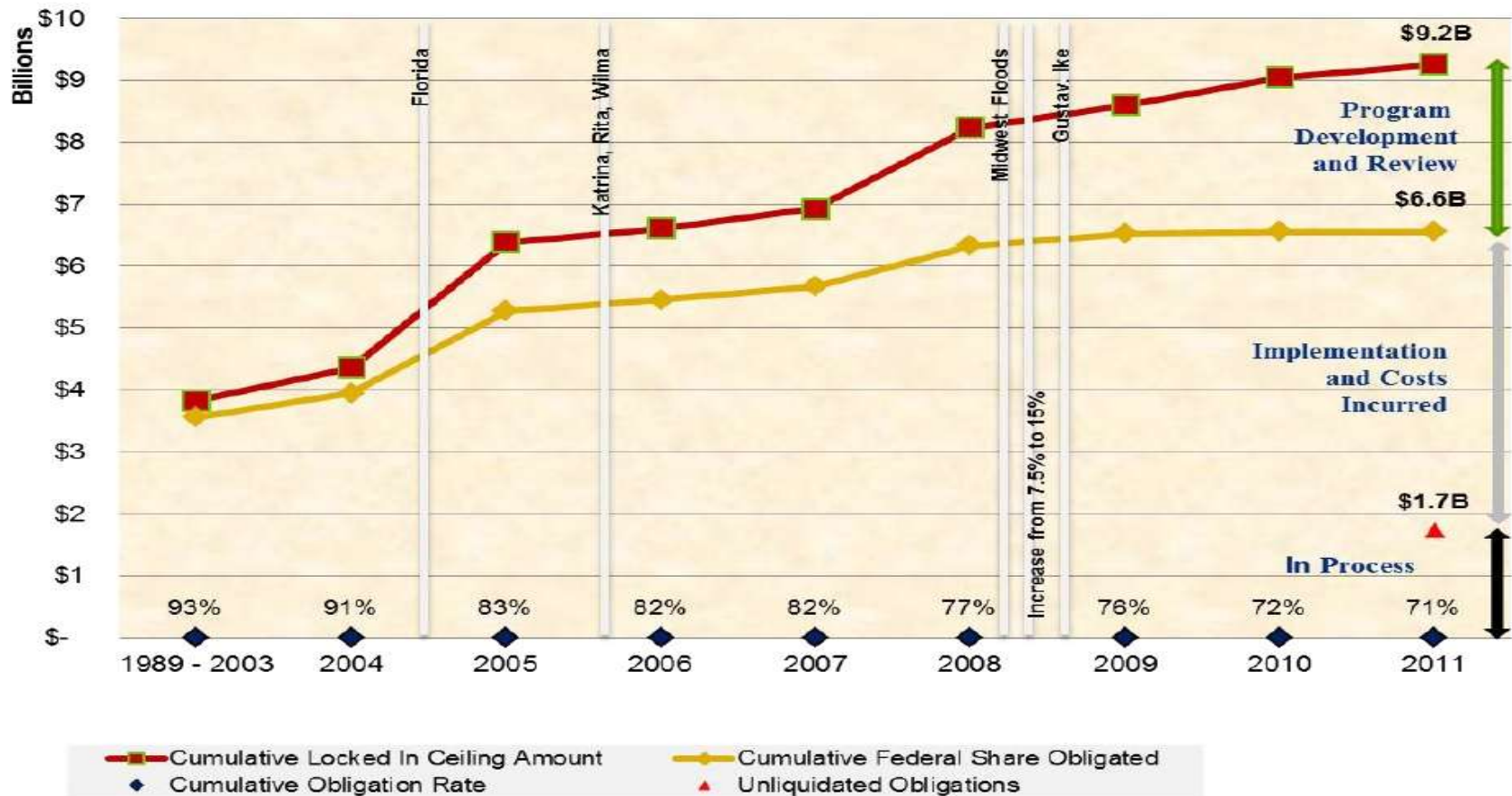
❖ Pros and Cons:

- Pros – After Documenting the Above, No Further Action is Required
- Cons – Cannot be Used for Projects That Can Have a Ratio Calculated and is Limited to 5% of the Available Funding

FEMA's New Cost Effectiveness Policy (HMGP ONLY)

- In August of 2013 and Later Superseded in October 2013 FEMA Implemented a Cost Effectiveness Policy Allowing for a Least Accepted Benefit for Acquisition / Demolition and Elevation Projects
 - ❖ Requirements:
 - A Cost of \$276,000 for Acquisition and \$175,000 for Elevation Per Structure in the SFHA is Considered Cost Effective With an Automatic 1.0 Ratio
 - ❖ Pros and Cons:
 - Pros – Allows for a Quicker Development of an Application With a Wider Option for Structures That May Not Pass a Standard BCA
 - Cons – Destroys a Defensible Prioritization and Can Quickly Deplete Available Funding. It Can Also Have the Potential to Destroy Local Economies and Community Viability

Why the New Policy?



Resources

Description	Web Link or Contact Information
3. Benefit-Cost Analysis Resources	
BCA Software and Helpline	Telephone: (866) 222-3580 Email: bchelpine@dhs.gov
BCA Overview	http://www.fema.gov/benefit-cost-analysis
BCA Policies	http://www.fema.gov/benefit-cost-analysis
4. Feasibility and Effectiveness Resources	
Engineering Helpline	Telephone: (866) 222-3580 Email: enghelpline@dhs.gov
Engineering Case Studies	http://www.fema.gov/grant-applicant-resources
Property Acquisition Projects	http://www.fema.gov/library/viewRecord.do?id=1861
Structure Elevation Projects	http://www.fema.gov/library/viewRecord.do?id=1862
Minor Localized Flood Reduction Projects	http://www.fema.gov/library/viewRecord.do?id=1863
Non-Structural Seismic Retrofit	http://www.fema.gov/library/viewRecord.do?id=1865
Structural Seismic Retrofit	http://www.fema.gov/library/viewRecord.do?id=1866
Wind Shutters	http://www.fema.gov/library/viewRecord.do?id=1864