

Economic Impact of Stormwater Financing

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Discussion Points

- Project brief project overview
- Overview of stormwater financing environment within the Chesapeake Bay region
- Define and explain economic impact analysis (EIA)
- Summarize EFC stormwater EIA project
- Discuss role of EIA in moving stormwater financing programs forward



Overview of Stormwater Financing

- There has been a fundamental shift in approach to stormwater financing:

Push for impracticability

Desire for efficient solutions

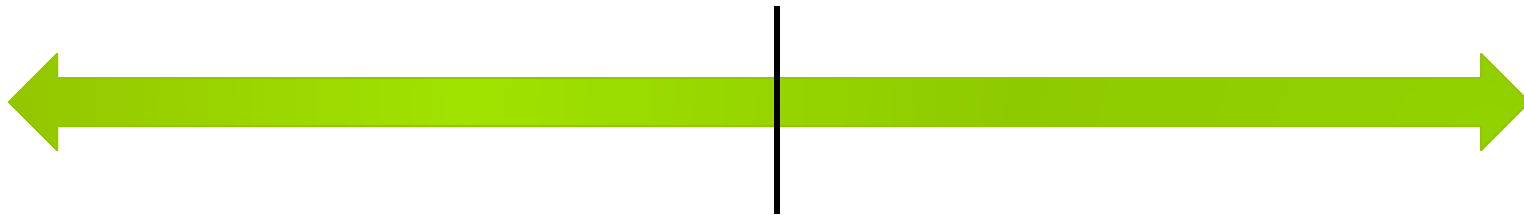


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Implementation Shift



Stormwater Mitigation

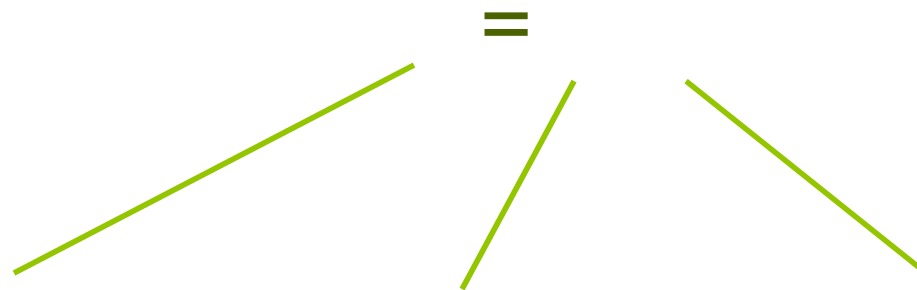
Costs

Investments

Benefit

Effectiveness

Impact



Environmental, achieving desired goals efficiently



Stormwater Management in Context

- **Cost benefit analysis:** compares benefits and costs
 - Determine soundness of investment
 - Compare projects
- **Cost effectiveness:** how well a policy achieves a desired goal
- **Economic impact analysis (EIA):** examines effects on the economy of a given area

All three are necessary; none are sufficient



Cost/ Benefit

Lynchburg, VA

- Transportation
- Economic development
- Natural resources
- Education
- Human health
- Financial efficiency



EEC



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Cost/ Benefit

Greenville, SC

- Downtown revitalization
- Community redevelopment
- Economic development
- Parks and recreation
- Natural resource restoration and protection



Cost/ Benefit

Greenville, SC

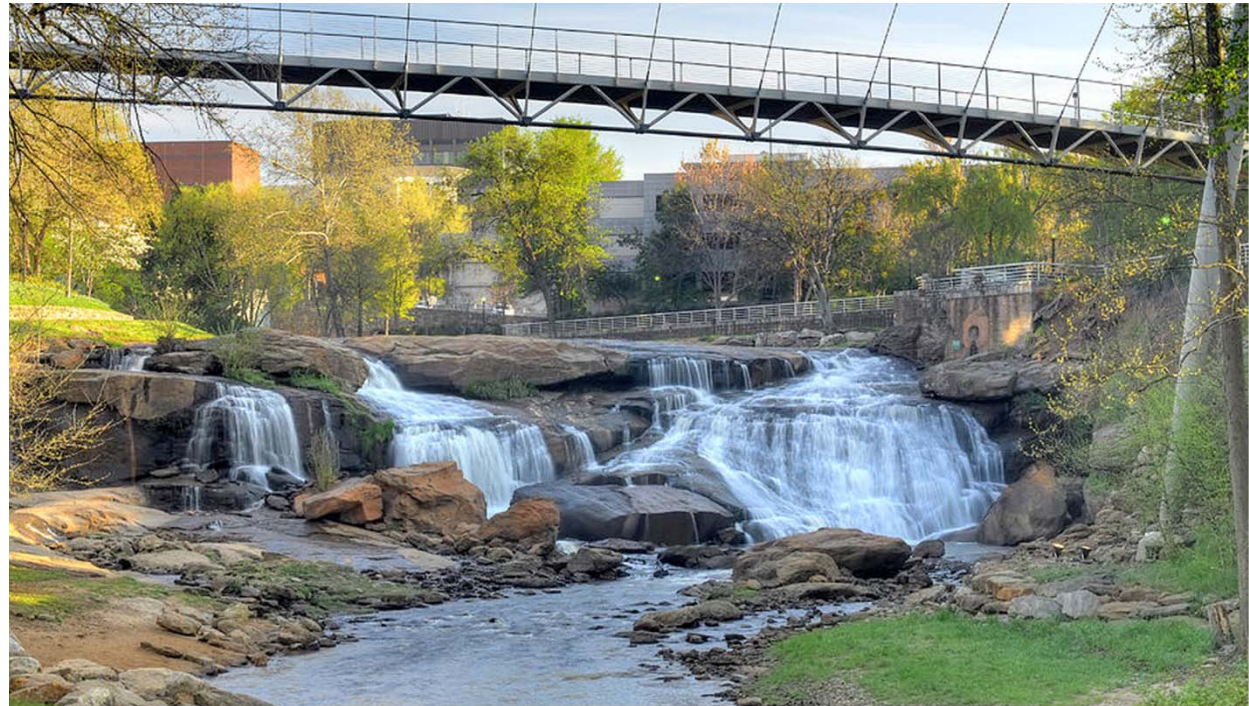
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Cost/ Benefit

Lancaster, PA

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Cost Effectiveness

Accomplishing a stated goal as efficiently and effectively as possible:

- Reduced impervious surface



Cost Effectiveness

Accomplishing a stated goal as efficiently and effectively as possible:

- Reduced runoff volume



Cost Effectiveness

Accomplishing a stated goal as efficiently and effectively as possible:

- Reduced nutrient emissions



Photograph by Peter Essick, National Geographic



Economic Impact

Frames the issue within a community context:

- Economic development
- Job training
- Infrastructure financing



EFC Stormwater Financing Project

- Technical assistance project being implemented in three urban communities: Baltimore, MD; Anne Arundel County, MD; and, Lynchburg, VA.
- Supported through a grant by the National Fish and Wildlife Foundation.
- Project partner: Business Economic and Community Outreach Network (BEACON), at Salisbury University.



Project Phases

- Phase 1: *economic impact assessment*
- Phase 2: assessment of existing financing programs and processes
- Phase 3: recommendations for creating efficiencies and maximizing community benefit

This presentation focuses on the results of Phase 1



Stormwater Financing in Context

	Lynchburg, VA	Baltimore, MD	Anne Arundel County, MD
Population	77,000	621,000	550,500
Median Household Income	\$38,000 (state average: \$63,000)	\$40,100 (state average: \$72,000)	\$85,700 (state average: \$72,000)
Citizens below poverty line	23.2% (state average: 10.7%)	22.4% (state average: 9%)	5.5% (state average: 9%)
Median home value	\$146,100 (state average: \$254,600)	\$163,700 (state average: \$319,800)	\$361,700 (state average: \$319,800)

Source: US Census Bureau 2012



Project Process and Parameters

Focus on Chesapeake Bay restoration obligations:

- Watershed Implementation Plans (WIPs)
- These plans are required to achieve Bay-wide Clean Water Act requirements (TMDL)



Project Process and Parameters

- Assessments were conducted at the county and/or municipal level
- EIA tools: IMPLAN, iDecide
- Assessment results:
 - Impact per \$100 million in construction investment
 - Impact per \$10 million in operations and maintenance



Estimated Economic Impact of Construction Activities: Value Added

Based on \$100 million investment

	Lynchburg	Baltimore	Anne Arundel County
Direct	\$ 186,138,948	\$ 119,596,600	\$ 134,906,126
Indirect	\$ 71,862,242	\$ 16,896,723	\$ 38,795,636
Induced	\$ 57,928,686	\$ 8,536,405	\$ 46,499,275
Total	\$ 315,929,876	\$ 145,029,732	\$ 220,201,036



Estimated Economic Impact of Construction Activities: Jobs Supported

Based on \$100 million investment

Lynchburg, VA	1,411
Anne Arundel County MD	776
Baltimore, MD	344



Estimated Economic Impact of Operations and Maintenance Activities: Value Added

Based on \$10 million annual investment

	Lynchburg	Baltimore	Anne Arundel County
Direct	\$15,115,420	\$18,816,139	\$20,745,186
Indirect	\$ 3,547,828	\$ 4,775,319	\$ 4,085,823
Induced	\$ 3,876,330	\$ 5,318,083	\$ 8,813,986
Total	\$22,539,589	\$28,909,541	\$33,644,996



Estimated Economic Impact of Operations and Maintenance Activities: Jobs Supported

Based on \$10 million annual investment

Lynchburg	90
Anne Arundel County	118
Baltimore	95



Impacts on Industry Sectors

IMPLAN

Sector Code

369	Architectural, engineering, and related services
380	All other miscellaneous professional, scientific, and technical services
319	Wholesale trade businesses
36	Construction of other new nonresidential structures
375	Environmental and other technical consulting services
426	Private household operations



Impacts on Industry Sectors

Product Development	<ul style="list-style-type: none">• Civil Engineering• Landscape Architecture• Hydrologic/Hydraulic Engineering• Environmental Engineering
Manufacturing/ Distribution	<ul style="list-style-type: none">• Landscape Media• Construction Equipment• Plumbing Equipment & Supplies• Building Supplies• Farm & Garden Machinery & Equipment• Nurseries and Horticultural Services• Arborist Services• Cistern Manufacturers• Meters Sensors and Components Manufacturers
Site Design	<ul style="list-style-type: none">• Landscape Architecture• Architecture Firms• Planning and Expediting Services• Civil Engineering Services• Hydrology• Permitting and Administrative Services• Soil Scientist Services

Source: *Gray to Green: Jumpstarting Private Investment in Green Stormwater Infrastructure* (Philadelphia SBN's Green Economy Task Force)

The logo consists of the letters 'EEO' in a bold, green, sans-serif font. Below the letters is a stylized green silhouette of a city skyline with several peaks of varying heights.

Impacts on Industry Sectors

Construction

- General Construction Services
- Paving, Surfacing and Tamping Services
- Roof Contracting Services
- Landscaping Services
- Poured Concrete Foundation & Structure Contracting Services
- Site Management and Evaluation Plumbing Services
- Electrical Services
- Hauling Services
- Truck and Tractor Operations
- Weatherization Companies
- Demolition/Deconstruction
- Hazardous Waste Treatment and Disposal Services

Monitoring/ Maintenance

- Service Technician Firms
- Landscaping
- Compliance Testing and Monitoring
- Septic Tank Servicers and Sewer Pipe Cleaning
- Plumbing/Sprinklers/Irrigation
- Jetvac Cleaning Services
- Erosion and Sediment Inspection

Impacts on Industry Sectors



EFC



Impacts on Industry Sectors



Conclusion

- New shift to community-focused implementation
- Context in the community matters:
 - Impact
 - Benefit
 - Effectiveness
- Full project report is available in EFC website:
www.efc.umd.edu



QUESTIONS?

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