

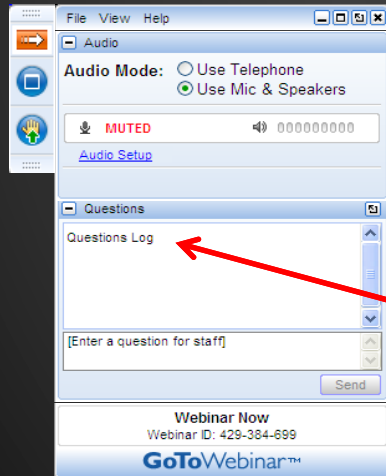


Stormwater Currency®: Incentivizing Private Investment in Green Infrastructure

Thursday, January 30, 2018
1:00 - 2:30 PM ET



How to Participate Today



- Audio Modes
 - Listen using Mic & Speakers
 - Or, select "Use Telephone" and dial the conference (please remember long distance phone charges apply).
- Submit your questions using the Questions pane.
- A recording will be available for replay shortly after this webcast.



Today's Moderator

- **Rebecca Arvin-Colón**
- Water Environment Federation
- Senior Manager, Stormwater Programs





- Not-for-profit Technical and Educational Organization
- 35,000 Individual Members
- 29 Committees
- WEFTEC



- Center of excellence and innovation housed within WEF
- Central hub on stormwater issues
- Provides a platform to develop best practices and share better approaches to stormwater management
- Provides options for collaboration and funding for key initiatives
- <http://wefstormwaterinstitute.org/>





Developing Next-Generation Stormwater Funding Strategies: Two Community Case Studies

Water Environment Federation
the water quality people



Gary Belan

Senior Director,
Clean Water Supply
Program



American Rivers
Washington, DC



Project Team



A project of American Rivers, Corona Environmental Consulting,
and Water Environment Federation



National Context

- ASCE routinely rates water infrastructure in the D range.
- Over 90% of water infrastructure funding comes from the municipal level

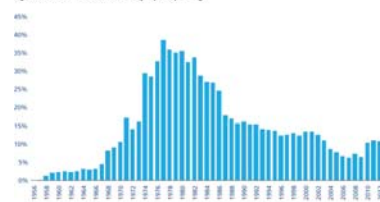
Figure 1. Public spending on water utilities (in 2014 dollars)



Source: Congressional Budget Office, "Public spending on transportation and water infrastructure, 1996 to 2014," table W-1, <https://www.cbo.gov/publication/49910>

Graphic: Deborah Stearns/Press | SIPPress.com

Figure 2. Federal share of water utility capital spending



Source: Congressional Budget Office, "Public spending on transportation and water infrastructure, 1996 to 2014," table W-2, <https://www.cbo.gov/publication/49910>

Graphic: Deborah Stearns/Press | SIPPress.com

Private Sector Role

- Traditional funding approaches include:
 - General Funds
 - Property Taxes
 - Water Rates
 - Utility Fees
- For many places, these resources are not enough or are limited.
- It's necessary to involve the private sector in the process - and Stormwater Currency is focused on that connection.

New and innovative solutions being explored

- Alternative compliance
- Stormwater credit trading
- Green infrastructure incentive programs (e.g., grants, rebates)
- Environmental impact bonds
- Public-private partnerships (community-based)
- Tax increment financing

Connections to One Water

- US Water Alliance stresses need for engaging private sector to provide water solutions
- One Water approach utilizes community-based approaches to ensure private participation





Jeffrey Odefey

Director,
Clean Water Supply Program
American Rivers
Nevada City, California



Stormwater Credit Trading - Program Considerations and Perspectives and Case Study



Today's Discussion

- Stormwater Credit Trading: What is it? What are the benefits?
- Fundamental factors for success
- Lessons from our work to establish a program in Grand Rapids, Michigan



Stormwater Credit Trading: The Basics

Offsite compliance option provides regulatory flexibility to property owners/developers while meeting water quality & quantity management goals.

- ◆ **Buyers:** Developers/property owners meet a portion of stormwater management requirements by buying volume-based stormwater "credits"
- ◆ **Sellers:** Property owners who voluntarily implement GI or include excess capacity in GI installations while meeting regulatory requirements.



Photo: DC Dept of Energy and Environment



Stormwater Credit Trading: The Basics

- ◆ “Currency” in the market is volume : gallon of stormwater capacity (or cubic foot)
- ◆ Payment in lieu is important complement - sets a “ceiling” for compliance costs
- ◆ Retrofits of existing parking lots, etc. can generate credits and profitable land use
- ◆ Not Mitigation Banking. Doesn’t drive large scale green infrastructure



Fundamental Pre-conditions



- **Regulatory Condition**
 - Sufficiently strong on-site retention standard
 - Alternative compliance allowed
- **Economic Condition**
 - Strong re/development
 - Favorable on-site vs off-site costs
- **Financial / Management Condition**
- **Creative Leadership Condition**



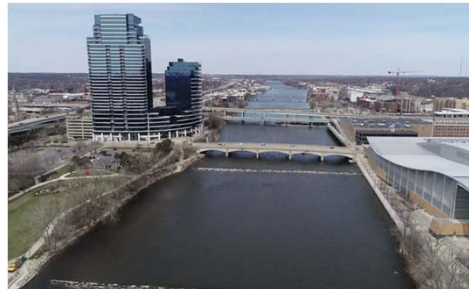
Key Benefits of Stormwater Credit Trading



- ◆ Isn't a new fee or tax. Doesn't depend on a stormwater utility
- ◆ Builds green infrastructure with increased private sector participation
- ◆ Compliance flexibility benefits real estate development sector
- ◆ Market-based approach creates multiple incentives
- ◆ More, and more widespread, green infrastructure

Case study: Grand Rapids

- ◆ Small city, model for similarly situated municipalities
- ◆ No fee, no possibility of fee
- ◆ Strong development and overall economy
- ◆ Forthcoming permit with retention requirements tied to channel protection and sediment control
- ◆ Strong private and public culture of green infrastructure.



Proposed Stormwater Permit Requirements

- Channel protection, water quality, and flood protection
- Stormwater credit trading driver = retention-based channel protection requirements
 - Retain onsite the increased runoff over pre-development runoff, up to 2 year- 24 hour storm
 - Green infrastructure prioritized
- For offsite compliance, control onsite must be infeasible (e.g. slow infiltration rates)
 - Expected to control the first 0.4" onsite before going offsite,
 - Credit ratios apply - 1:1.5 if able to retain first 0.4"; 1:2 if not

Trading Program Design Considerations

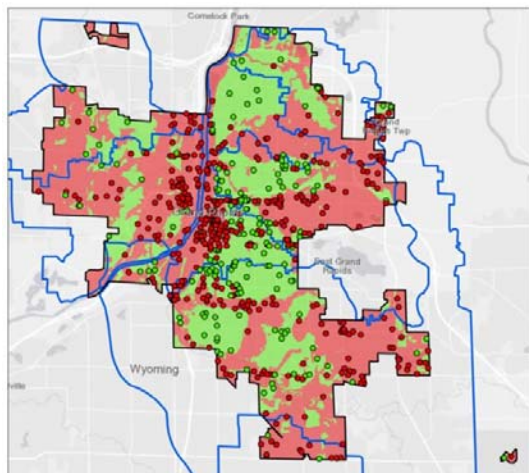
- Selecting trading geography - protecting against water quality impacts
(7 sewersheds)
- Starting up the market
(allow banked credits)
- Bounding the market
(floor and ceiling price)

Trading Program Design Considerations

- Timing of credit purchase - annual vs one-time
- Use of credit ratios



Feasibility/Permit Mapping



- Feasibility Criteria**
- Soil types A, B and some Other
 - Water table depth > 3 feet
 - Slope < 15 degrees
 - Not a contaminated area
- LUDS Permits**
- Feasible
 - Infeasible
- Feasibility**
- Feasible
 - Infeasible
- Grand Rapids City

Economic Demand Factors

Confirm incentives for developers go offsite, based on:

- 1) Cost of onsite management
- 2) Cost of purchasing credits
- 3) Value of land area freed up onsite
- 4) Feasibility constraints



Estimating Credit Prices and In-Lieu Fee

- *Credit price calculation* - function of GI capital, maintenance, and land costs, plus profit
- *In-lieu fee calculation*
 - Based on cost for the city to install and maintain GI - more expensive than private developers
 - Preliminary calculation using local and national data
 - Serves as ceiling for the market



Status and Next Steps

1. Finalize feasibility assessment and program design
2. Create foundation for roll out after new permit issuance
3. Build scalability resources for replication in other cities



Janet Clements

Senior Economist
Corona Environmental Consulting
Louisville, Colorado





Getting the Most from Stormwater Grant Programs

How can a grant program be tailored to leverage additional funding, involve private sector, and deliver targeted performance?



Grant Program Basics

- Typically fund larger, more complex projects
- Can leverage alternative funding and private sector resources
- Can result in **significant cost savings** for utility
- Well-suited to a range of property types & partners
- Can focus on high priority areas and/or leverage co-benefits
- Highly visible projects can provide educational benefits

The Philadelphia Story

- **Greened Acre Retrofit Program (GARP)**
 - Allows contractors to aggregate and apply for funding for projects across **multiple properties**
 - Reduces transaction costs
 - Economies of scale
 - Decreased administrative burden
- **Stormwater Management Incentives Program (SMIP)**

Why it Works. . .

- Timeline and scale plays a big role
- Counts towards 10,000 greened acres goal
- Clear business case
- Significant stormwater fee (and discount program)
- Suite of programs allows for effective targeting
- Continuous evaluation/adaptive management

The Northeast Ohio Story

Northeast Ohio Regional Sewer District GI Grant Program

- Annual budget: \$1 to 2 million
- Program inception: 2014
- Applicants: CDCs, member communities, non-profits
- Eligible properties:
Residential, non-residential, institutional
- Project sites:
Existing (retrofits), new development, redevelopment
- Annual application process

2015 Program Stats:

- 11 projects
- \$1.73 M
- 7.13 M gallons
- \$0.24/gallon

Overcoming Barriers

District perspectives

- Bridging funding gap difficult for applicants
- Uncertainty for applicants
- Hard to get projects installed in a timely way
- Normal construction delays
- Maintenance

Private sector perspectives

- Lack of internal capacity to apply
- Delays caused by permitting
- Not timed with development
- Aggregation opportunities
- Maintenance

Making a good idea better

- Lower barriers to entry for potential applicants
- Building capacity and partnerships
- Private sector engagement
- Targeting investments to meet multiple objectives
- Project bundling
- Prioritize co-benefits/bring in other funding streams
- 3rd Party maintenance providers

Understanding and Leveraging Co-benefits

Primary Purposes	Co-Benefits	Partnership Opportunities
Manage Stormwater	Educational Signage	Public Art
Manage Wastewater	Improved curbs and sidewalks	Transit-Waiting Environments
Comply with Consent Decree	Public Access areas on project site	Walking Loops or paths. Connector Trails.
	Added acres of maintained green space	Park programming and additional recreational amenities.
	Plants, trees and ecosystems improvements	Targeted Tree Canopy Restoration
	Removal of unwanted structures, environmental remediation	Pedestrian and park lighting
	Climate mitigation and adaptation	Enhanced climate mitigation and adaptation
	Indirect Economic Impact	Workforce Development

Source: NEORSD CEO presentation to External Advisory Committee

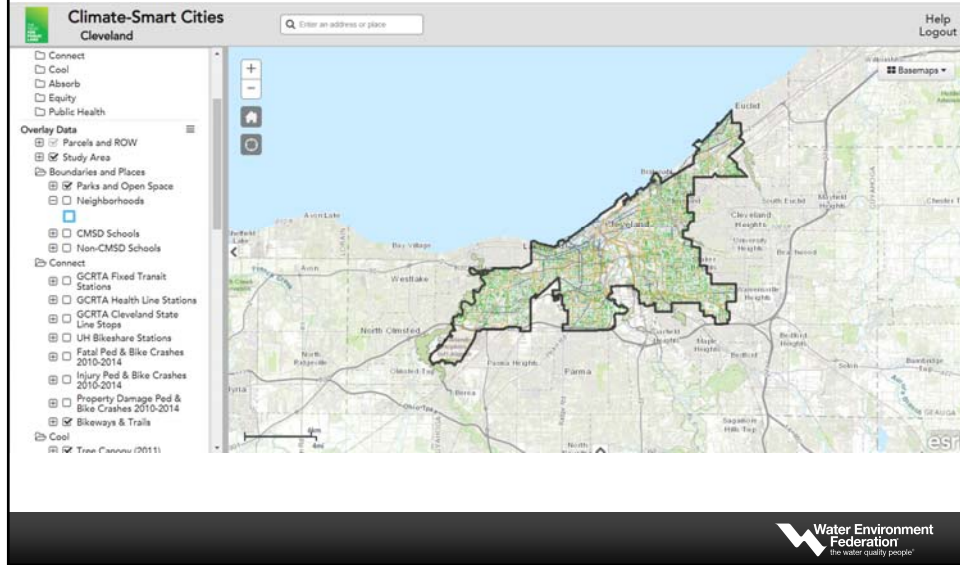


Understanding and Leveraging GI Co-Benefits

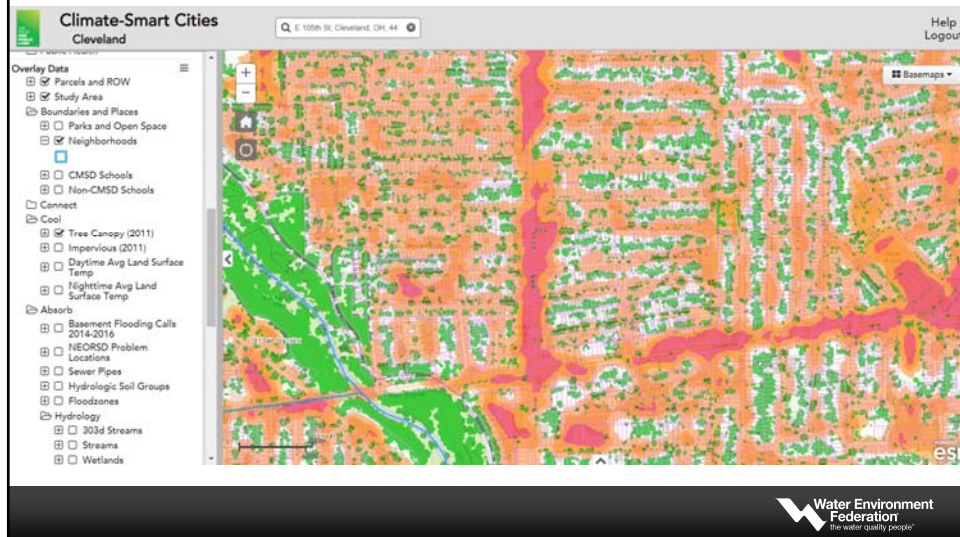
- CLIMATE-SMART CITIES: CLEVELAND
- Empowering Multi-Benefit Green Infrastructure Decision Making



Understanding and Leveraging GI Co-Benefits



Understanding and Leveraging GI Co-Benefits



Leveraging Benefits and Associated Funding

- Mayor's Neighborhood Transformation Initiative
- Bikeway Master Plan Update
- Greenway connections
- Cleveland Tree Plan
- Parks and Economic Development
- Park Capital Improvement Plans
- Neighborhood Resiliency
- NEORS Community Investments
- Safe Routes to School
- Climate Action Plan



Source: TPL

Project Aggregation

- Can we implement GI at scale in Glenville to maximize stormwater capture and other community priorities?
- What does a project aggregator look like including roles and responsibilities?
- What does the market size/funding level need to be to interest potential aggregators?
- What do aggregated/bundled projects look like?
- What would the benefits of aggregation be for the District?

Maintenance

- Workforce development
- Jobs demand study
- GI Certification
- Targeting specific property owners
- Other city agencies



Benefits of GI Neighborhood Investment Plan

- Pipeline for shovel-ready projects
- Pilot/template for other neighborhoods
- Strategies for grant program
- Identification of key partners
- Justification for additional program spending

Questions?

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