



Making the Right  
Choices for Your Utility:

# Incorporating Community Priorities into Investment Decision-Making

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Augmented Alternatives Analysis  
Method

September 21, 2022



# Today's Speakers:



**Leslie Corcelli**  
Office of Wastewater  
Management



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Managing Director  
Moonshot Missions

# OPENING POLL

Please indicate the sector that you work in:

- Utility
- State or local government
- Federal government
- Consultant
- Water Association/Organization
- Other

# POLL QUESTION

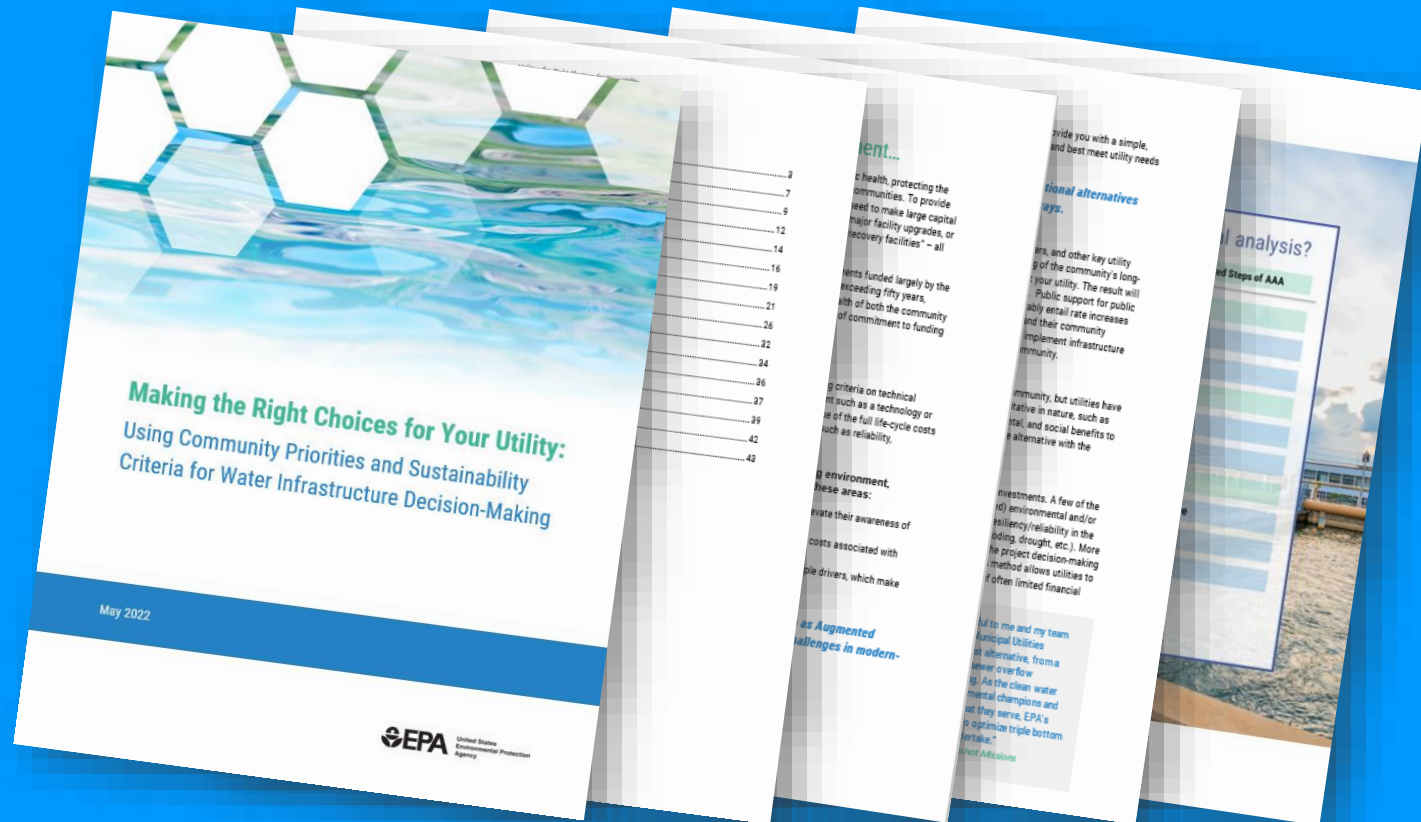
Are you planning on using federal or state funds for an infrastructure project in the next two years? :

- YES
- NO

# Augmented Alternatives Analysis...What is it?

- **An infrastructure planning process that augments traditional alternatives analyses by:**
  - **Proactively engaging the community to understand their priorities and elevate their awareness of utility needs.**
  - **Addressing and quantifying some environmental, economic, and social benefits and costs associated with these long-term infrastructure investments.**
  - **Selecting the most cost-effective project alternative when there are multiple drivers or sources of water pollution, which make project decision-making more complex**

# NEW! EPA's AAA Guide – Revised May 2022



## Testimonials from Real World Users



"The EPA's AAA tool was extremely helpful to me and my team while I was at the Camden County (NJ) Municipal Utilities Authority. It enabled us to identify the best alternative, from a triple bottom line basis, for a combined sewer overflow abatement project that we were evaluating. As the clean water utilities of the future strive to be environmental champions and anchor institutions in the communities that they serve, EPA's AAA roadmap will be an invaluable tool to optimize triple bottom line benefits for any new project they undertake." - [Andy Kucum](#), *oversaw the use of the AAA method for the Camden County Municipal Utilities Authority Combined Sewer Long-Term Control Plan (LTCP) as Executive Director and Chief Engineer. To read more visit the [case study](#).*

"The EPA's AAA process has provided the High Line Canal Conservancy the opportunity, along with our partners, to really think about and understand the true potential for the High Line Canal as it transitions from an irrigation delivery system to green stormwater infrastructure. Each step of the AAA process systematically built upon the previous one and allowed for important input from a wide base of stakeholders including the Stormwater Transformation and Enhancement Program leadership team, community members and local leaders, which then ensured a robust alternatives analysis. Guided by the expertise of EPA and grounded in a sustainable approach, the Conservancy and our partners are now able to seamlessly adapt the AAA process to respond to and meet varying needs and conditions. We're so excited to implement this impactful tool and to showcase the benefits of green infrastructure." - [Cathy McCague](#), *Program Manager, oversaw the use of the AAA method for the High Line Canal Conservancy's Stormwater Transformation and Enhancement Program (STEP). To read more about STEP, visit the [case study](#).*



"The EPA's Augmented Alternative Analysis process provided our community with an organized framework on which to build priorities and goals with measurable metrics. The EPA team partnered with us to align our city goals and community priorities with our project needs to inform our future utility investment decisions. This evaluation was a critical planning step toward a more resilient and sustainable water resource recovery future here in Saco." - [Howard Carter](#), *oversaw the use of the AAA method for the Long Term Resiliency Plan as Director of the Water Resource Recovery Department at City of Saco, Maine. To learn more, visit the [case study](#).*

To view, search online for EPA's "Planning For Sustainability" webpage

# Key Attributes of the AAA Process

1. Act as an ANCHOR INSTITUTION in the community by engaging the community, facilitating meaningful community engagement
2. Helps to quantify “qualitative” criteria to compare multi-benefits
3. Addresses financial constraints of utilities through a staff-driven, community influenced prioritization process
4. Works well with EPA’s Integrated Planning Framework (and other planning tools)

# Augmented Alternatives Analysis

## 10 Steps At A Glance

### How does AAA add to a conventional analysis?

Conventional Alternatives Analysis



Augmented Steps of AAA

**+ 1 Understand Community Priorities**

2 Determine Project Goals

3 Define Objectives

**+ 4 Rank the Importance of Goals**

5 Establish Criteria

6 Choose Metrics for Your Criteria

**+ 7 Create Performance Ranges**

8 Evaluate Performance of Each Alternative

9 Compare Across Alternatives

10 Incorporate Cost Considerations



Choose "Best Fit" Alternative for  
Your Utility + Community



- **Camden County Municipal Utilities Authority**
  - Large City
  - Water Resource Recovery Utility
- **City of Saco Water Resource Recovery Department**
  - Small Town
  - Water Resource Recovery Utility
- **High Line Canal Conservancy**
  - Non-profit
  - Works with 11 jurisdictions and water districts

**EPA conducted  
three Pilot Projects**



## Saco Water Resource Recovery Department



Saco, ME



4.2 MGD Capacity



Last Major Upgrade in 2010-11



46.6" of Rain in 2020



## The Highline Canal Conservancy



Denver, CO



71 Miles of Canal



11 jurisdictions



2014: Conservancy was formed

# What's Next?

Stay tuned for :

- Fillable worksheets that take you through the process
- Webinars and workshops
- Pilot project(s) for small and rural community

# POLL QUESTION

Is your community below the national median household income level of \$67,000? Or are their neighborhoods within your community that may be below that level?

- YES
- NO

# Thank You!!

For questions, please contact me:

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***Using EPA's AAA process to  
IMPLEMENT STORMWATER  
MANAGEMENT IN AN EFFECTIVE  
AND EQUITABLE MANNER***

**Andrew Kricun, P.E.**

**Managing Director, Moonshot Missions**

**September 21, 2022**

# Localized AND COMBINED SEWAGE Flooding in Camden, NJ from a 1-inch rain event





# COMBINED SEWER SYSTEMS

- State of the art in the late 19<sup>th</sup> century, anachronistic with the advent of the automobile and subsequent paving of cities and towns
- Equitable solutions must:
  - Eliminate combined sewage flooding.
  - Minimize combined sewage overflows.
  - Address these issues while changing an affordable, equitable rate.

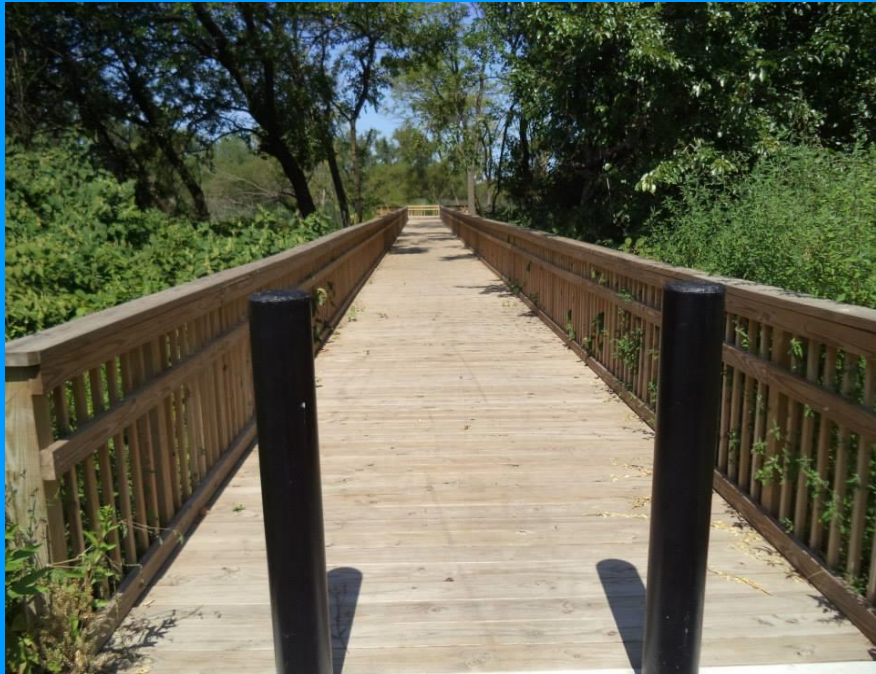
# Equitable implementation of combined sewage system solutions

- I. Optimize existing combined sewer system capacity
  - i. green infrastructure to capture stormwater and reduce the volume of flow entering the sewer system.
  - ii. Optimizing maintenance to maximize sewer storage capacity.
- II. Increase combined sewer system capacity
  - i. Judicious sewer separation, where possible.
  - ii. Judicious replacement with larger capacity pipes, where possible.
- III. Expand Receiving wastewater treatment plant
  - i. Remove volumetric bottlenecks
  - ii. Increase pumping to storage capacity
  - iii. Secondary treatment bypass, where possible

# Baldwin's Run Stream Daylighting Project- *Before*



# Baldwin's Run Stream Daylighting Project- *After*





# EQUITABLE FUNDING OF COMBINED SEWER SYSTEM SOLUTIONS

- A. Minimize reserve required from all ratepayers through:
  - Operational Cost Efficiencies
  - Obtain grant and low interest loan funding
    - WIFIF
    - SPF
    - Open space grant funding
- B. Obtain revenue equitably
  - implementation of a stormwater fee for impervious surfaces

# Stormwater fees-an essential component of an equitable CSO strategy

- 1) Stormwater can average approximately 40% of total volume received in a combined sewer system in a typical year.
- 2) 1 gallon of sewage + 1 gallon of stormwater = 2 gallons of sewage
- 3) If no one pays, then everyone pays
- 4) Inequitable apportioning is more disadvantageous to low-income households

**Conclusion:** It is essential to charge for impervious surface in a combined sewer system, in order to be equitable to low-income households

# SUMMARY

Equitable Combined Sewer Solutions Includes:

1. Elimination of combined sewage flooding and overflow
2. Triple bottom line solutions, such as green infrastructure
3. Maximizing funding to reduce total revenue requirements
4. Stormwater fee to apportion revenue requirements fairly and equitably



# POLL QUESTION

Are you Interested in using AAA in your community for your infrastructure projects?

- YES
- NO

QUESTIONS?

# Thanks for Listening!

**If you would like more information, please contact:**

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