



STORMWATER

It can make the world green. That's the power of STEP.

AUGMENTED ALTERNATIVES ANALYSIS (AAA) PROCESS

The U.S. Environmental Protection Agency (EPA) developed the AAA framework to help water utilities and water resource managers make smart infrastructure choices. This 10-step process expands upon traditional alternatives analysis, providing a pathway for decision-makers to turn community priorities and broad goals into specific, measurable metrics, allowing for hard-to-compare alternatives to be compared to one another. EPA selected the High Line Canal Conservancy's Stormwater Transformation and Enhancement Program (STEP) as a case study to apply their method as the High Line Canal (Canal) transitions to green stormwater infrastructure.

Central to this process is identifying three alternatives to manage existing inflows of stormwater into the Canal. The alternatives below: 1) display a total score based on how they measure against the metrics on page two; 2) compare the annualized project cost; and 3) display a benefit-cost ratio that represents the relationship between the alternative's performance across metrics and cost. A higher benefit-cost ratio provides a greater benefit for the investment.

Alternative 1 Off-Site Treatment



Gray Conveyance, Green Treatment

- Redirect existing stormwater inflows before they reach the Canal
- Construct conventional gray infrastructure for stormwater conveyance
- Construct green infrastructure for stormwater treatment
- Stormwater no longer reaches the Canal

TOTAL
SCORE

3

ANNUALIZED PROJECT
CAPITAL AND O&M COST

\$1.2M

BENEFIT - COST
RATIO

2.5

Alternative 2 In-Canal Treatment



Manage Existing Stormwater Inflows

- Repurpose the Canal as green infrastructure for stormwater conveyance, treatment and flood attenuation
- Implement all green stormwater infrastructure recommended in the High Line Canal Stormwater and Operations Master Plan

TOTAL
SCORE

138

ANNUALIZED PROJECT
CAPITAL AND O&M COST

\$1.2M

BENEFIT - COST
RATIO

117

Alternative 3 In-Canal Treatment + Landscape Enhancement



Manage Existing Stormwater Inflows while Planting Trees and Shrubs

- Repurpose the Canal as green infrastructure for stormwater conveyance, treatment and flood attenuation
- Implement all green stormwater infrastructure recommended in the Master Plan
- Plant 50 native and/or drought-tolerant trees per mile and 50 shrubs per mile as directed by The Plan for the High Line Canal

TOTAL
SCORE

225

ANNUALIZED PROJECT
CAPITAL AND O&M COST

\$1.4M

BENEFIT - COST
RATIO

167

OPPORTUNITIES FOR SUCCESS

Through public engagement and interaction with STEP leaders, four overarching goals were developed along with objectives and metrics to evaluate these goals.

(Best outcomes are highlighted)

GOAL 1: Stormwater Management: Conveyance, Treatment, and Flood Mitigation

			Alt 1	Alt 2	Alt3
OBJECTIVES	Improve water quality	METRICS	High	High	High
	Support flood attenuation		Medium	Low	Low
	Provide stormwater conveyance		Negative	Minimal required	Minimal required

GOAL 2: Community Livability

			Alt 1	Alt 2	Alt3
OBJECTIVES	Enhance recreational use and experience	METRICS	Negative	Low	High
	Improve environmental conditions		Negative	Medium	High

GOAL 3: Public Understanding of Stormwater Management

			Alt 1	Alt 2	Alt3
OBJECTIVES	Advance community understanding of stormwater management	METRICS	Low	High	High
	Promote green infrastructure		High	Medium	High

GOAL 4: Ecological Enhancement

			Alt 1	Alt 2	Alt3
OBJECTIVES	Maintain/expand habitat along Canal	METRICS	Negative	Low	High
	Maintain/expand plant diversity		Negative	None	Medium
	Support the water cycle		Low	Medium	Medium

To learn more, please visit highlinecanal.org/stormwater

