



CHECKLIST – How do I appropriately evaluate infrastructure investment alternatives?

Purpose: The purpose of the checklist is to identify the important criteria or metrics that should be considered when comparing natural versus gray infrastructure options.

Typically, an infrastructure alternatives evaluation only considers capital cost, and does not encompass the total return-on-investment value. Additionally, the evaluation may not adequately account for the co-benefits of a natural infrastructure (NI) alternative. The following criteria are recommended to be included in your alternatives evaluation.

FINANCIAL CRITERIA

- Capital Cost.** This is the initial cost of construction and other initial costs, such as design and permitting. In some cases, NI solutions require a smaller initial investment because less human-built equipment is required.
- Operations and Maintenance Costs.** O&M costs are the annual expenses required to operate and maintain the infrastructure. NI solutions may have lower long-term O&M costs because they are somewhat self-maintaining.
- Innovation and Revenue Potential.** This is an estimate of revenue potential or cost savings for the project, such as wetland credits, lower stormwater management fees, lower insurance premiums, or other economic value that the project may provide. It may occur as a one-time payment or annual payments over time (e.g., higher rents received on commercial office space due to improved aesthetics).
- Return on Investment.** This is a calculated number based on cost of money, time horizon, capital, and O&M.

ENVIRONMENTAL CO-BENEFITS

- Improvements in Water, Soil, and Air Quality.** This criterion accounts for the additional benefits of mitigating emissions to water and soil (e.g. through engineered wetlands or improved field margins), as well as improving air quality, and can be associated with construction, as well as O&M.
- Resources Conservation.** This criterion accounts for improvements in energy, water, and other natural resource use and can be associated with both construction and O&M.
- Habitat Creation, Restoration, and Connectivity.** This criterion accounts for protection, creation, or restoration of habitat, and in some cases, the ability to facilitate wildlife movement and connect wildlife populations.

SOCIAL CO-BENEFITS

- Enhanced Public Health, Communities, and Livability.** This criterion accounts for increased opportunities for outdoor physical activity or access to recreational amenities. It may also include increased employee satisfaction based on working in a green office environment.
- Operational Safety.** This criterion accounts for the relative workforce safety of the alternative. Often, safety issues with NI options are minimized due to reduced labor hours required to support and maintain the infrastructure system.
- Job Creation and Skill Development.** This criterion accounts for the increased training and career opportunities that may result from the infrastructure option, such as skill development in tree planting or landscaping. It can also include improvements to existing jobs, such as improved access to water for irrigation for farmers.
- Social License to Operate.** This criterion accounts for the potential improvement in the ability to engage positively with stakeholders (e.g., increased willingness of authorities to grant a permit to construct or operate).