



Stormwater Retrofits: Optimizing Benefits While Balancing Constraints

Presentation to
Rhode Island Flood Mitigation Association

April 30, 2019

What Is a Retrofit Project?

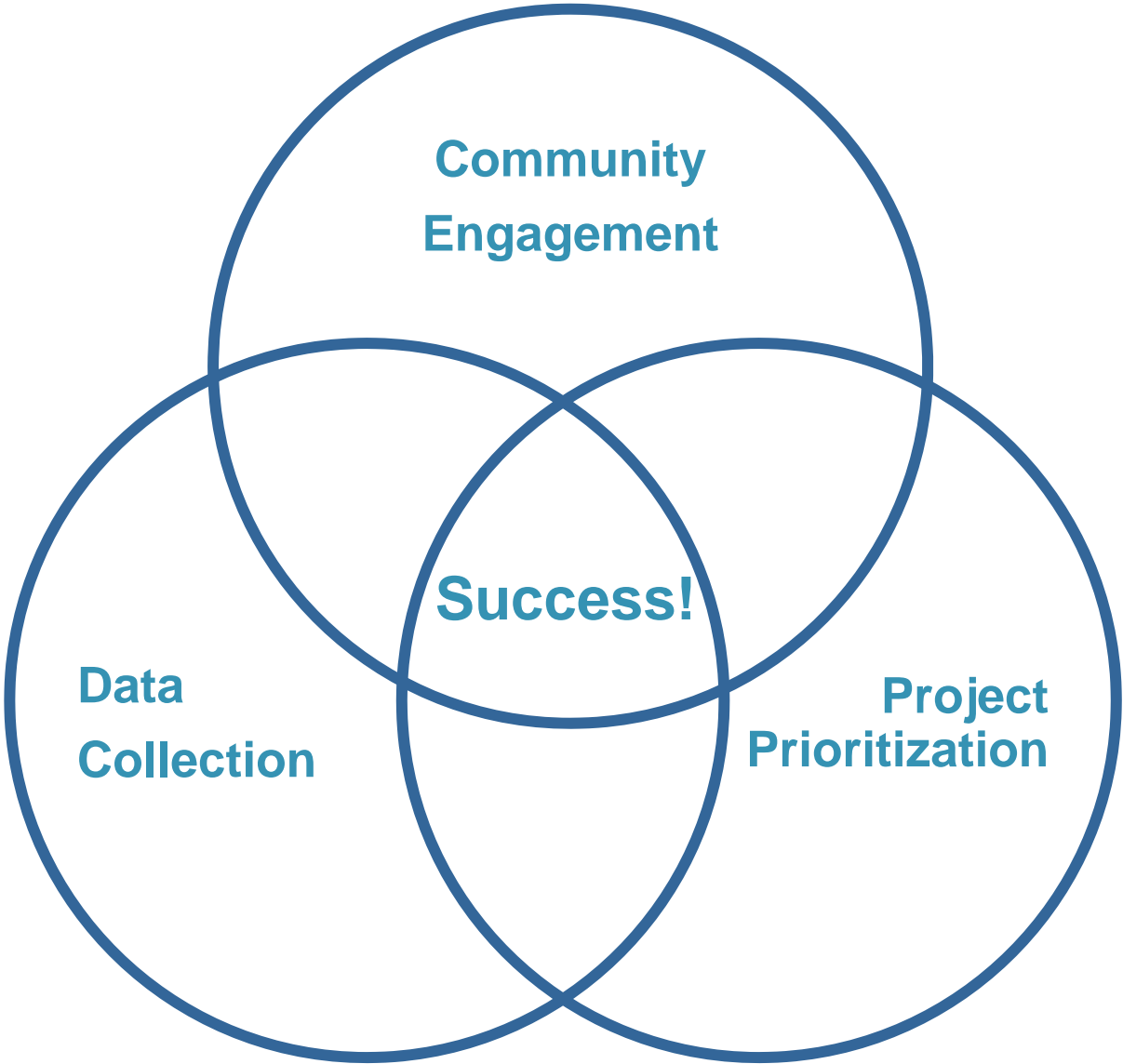


Before

After

National Association of City Transportation Officials (2017). *Urban Street Stormwater Guide*. Island Press.
Retrieved from <https://nacto.org/case-study/barton-cso-control-seattle/>

Retrofit Considerations

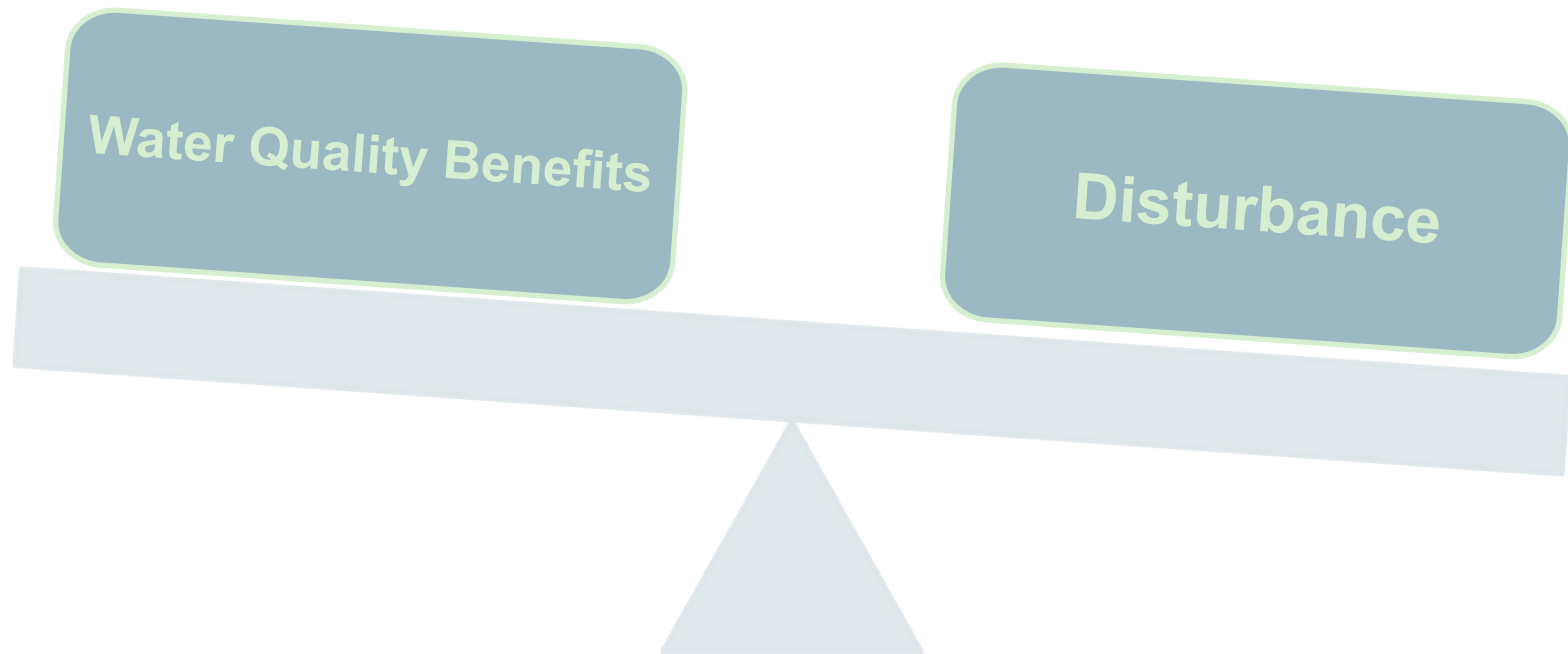


Data Collection – Feasibility



Communicate with Stakeholders
as early as possible.

Data Collection - Permitting



Data Collection – Existing Utilities

Records versus Reality



Data Collection – Feasibility



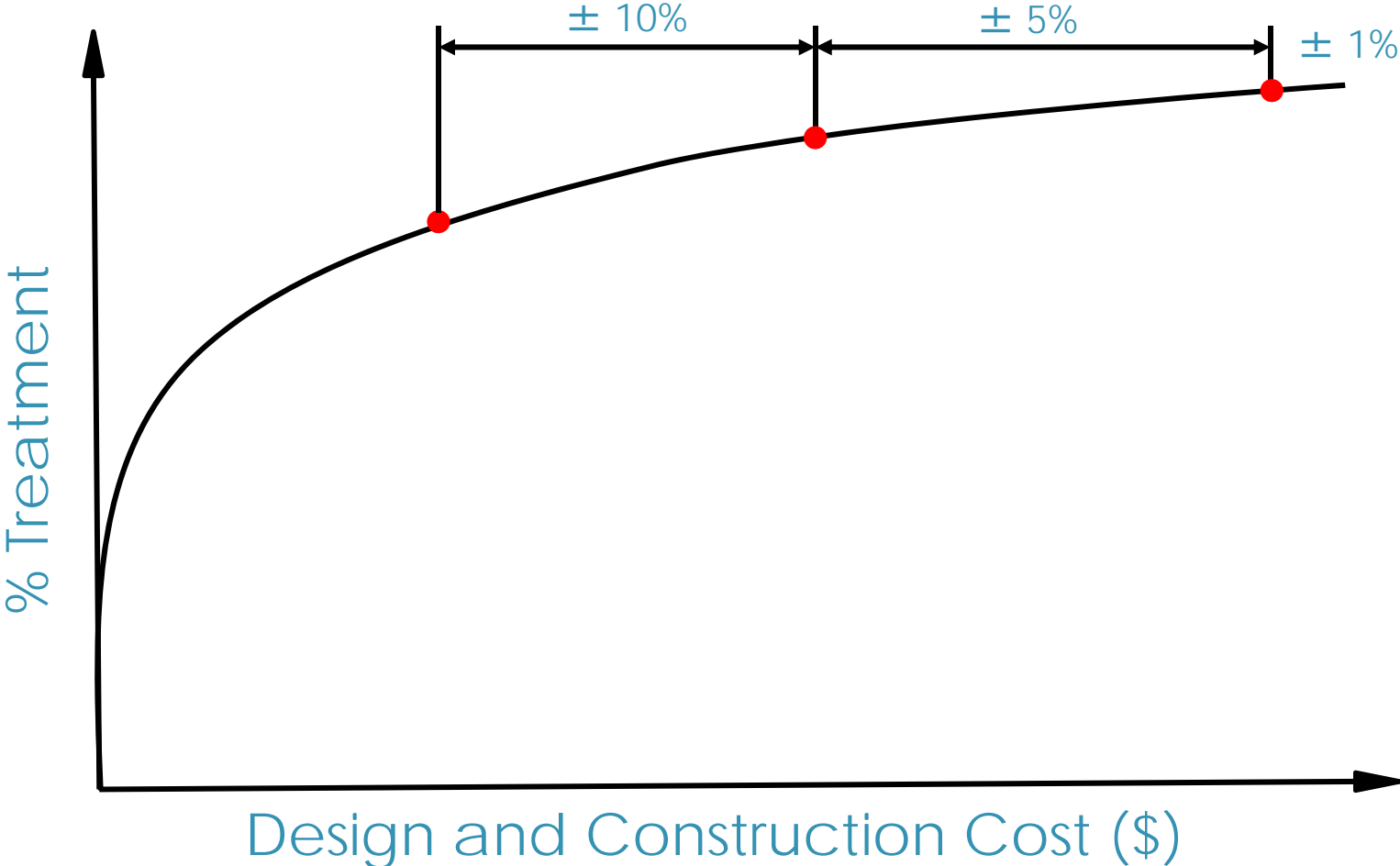
Data Collection – Maintenance






Project Prioritization - Design



Project Prioritization - Design



Project Prioritization

	Cost	Treatment Volume (cfs)	$\frac{(\$Cost)}{\text{Treated Stormwater}}$
Project A	\$45,000	50	
Project B	\$55,000	150	
Project C	\$150,000	15	

Community Engagement – Partnerships



Listen and Inform

Community Engagement – Listening Skills



Neighbors know the worst of the problem!

Community Engagement

Nontraditional
Community Forums

#engineering



facebook



You Tube

#RIFMA2019



#stormwater

Project Prioritization – Ancillary Benefits



Unique opportunities for creative designs!

Conclusion



Thanks for Listening!
