

# **Green Infrastructure, Home Values, Land Value Capture, and Equitable Property Assessment**

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## **Executive Summary**

Climate change has necessitated innovative approaches to financing of storm water mitigation in coastal communities throughout the U.S. and the world. Rain gardens are an approach to potentially mitigate storm water, by sorbing and filtering stormwater that would otherwise run off and possibly release contaminants into the traditional sewer system. A bioswale is essentially a narrow rain garden that is located between the sidewalk and road in developed areas. The City of New Haven, Connecticut, an urban population center on the Connecticut shoreline, has installed many bioswales in the past several years. While these types of bioswales can be effective in reducing the amount of storm water entering the traditional sewer pipelines, there are financial costs associated with installing them.

If bioswales lead to higher residential property values, due to aesthetic benefits perceived by nearby homeowners, it might be possible for municipalities considering installing this type of green stormwater infrastructure to capture some of this created value. We study how adding additional bioswales near residential properties in New Haven would be expected to impact residential property values. New Haven has extensively implemented bioswales and maintains an excellent geospatial dataset on their locations and dates of installation. Data on sales prices of residential properties, as well as the assessed values of all residential properties (including those that have not recently sold), are available from past property sales studies, the municipal assessor, and some private vendors.

We use statistical techniques to analyze the data, and we demonstrate that there is approximately an 8.8percent increase in residential property prices due to the presence of nearby bioswales in New Haven. We also propose a scenario for adding more bioswales in New Haven. In this scenario, we describe how the incremental property value increases from proximity to additional bioswales could potentially be captured and used in a revaluation by the municipal assessor to finance the additional bioswales. There is a potential for raising up to approximately \$1.38 million if the full increase in property values due to adding additional bioswales in our scenario were to be captured in a revaluation. Finally, we use International Association of Assessing Officers standards to determine that the proposed reassessment to capture the incremental property value changes in New Haven would be equitable.

Our approach could be useful to planners, engineers, and assessors in many cities that may be considering green stormwater infrastructure as one way to combat climate change.