



NEW YORK STATE WATER RESOURCES INSTITUTE

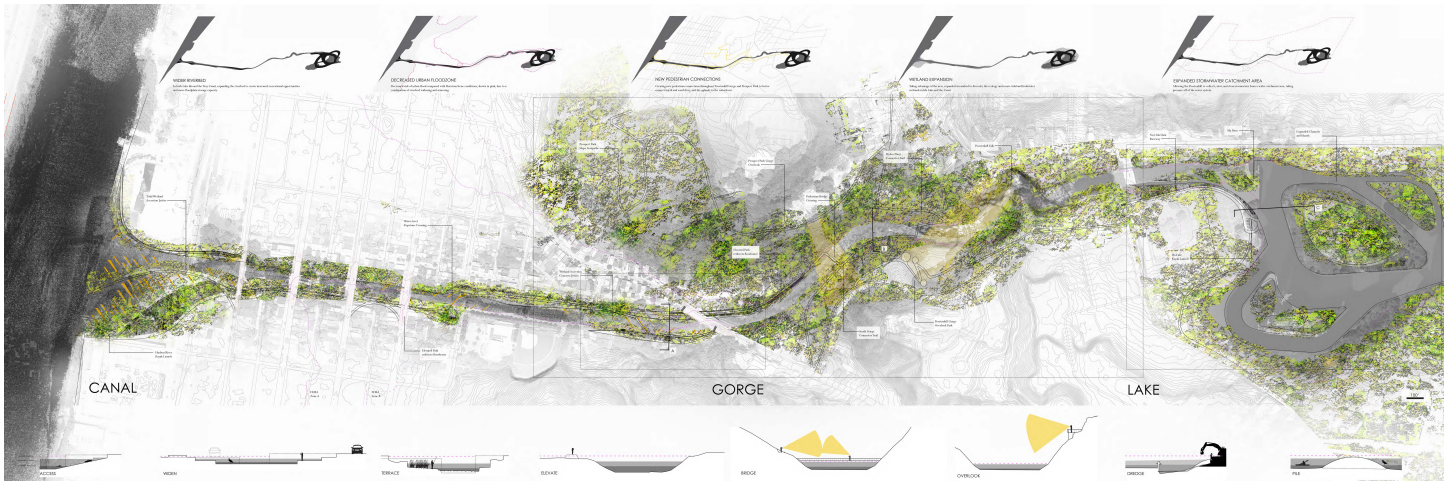
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Troy 2028: Green Infrastructure Scenarios for Troy

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“Priming the Poestenkill”, by Alice Sturm (MLA, Cornell 2017), a vision for redesigning the Poestenkill in South Troy as a green infrastructure corridor to minimize flooding, improve water quality, and provide public recreation space.

Abstract

This report highlights some conclusions from a 2016 study that partnered advanced graduate students in landscape architecture at Cornell University with local stakeholders to develop a wide range of implementation scenarios for multifunctional green infrastructure. The scenarios focused on key sites related to combined sewer overflows in the city. Opportunities for stormwater detention using landform and reforestation strategies were a focus, as was an interest in providing public access to the river. Opportunities for creating green infrastructure with a strong social component were identified within Troy, and conceptual proposals were put forth as part of a public exhibition and panel discussion at the Arts Center of the Capital Region.

Three Summary Points of Interest

- East-West streets in Troy that end at the River offer unique opportunities for the creation of green infrastructure that functions as a neighborhood public space.
- Poestenskill and Wynantskill can serve as major green infrastructures, providing ecological corridors, detaining large amounts of stormwater, and creation pedestrian connections across the city.
- Green infrastructure projects in Troy cannot be based on models imported from large, cosmopolitan cities requiring large amounts of capital.

Keywords: Green infrastructure, landscape infrastructure, combined sewer overflows, public space design

Policy implication statement; products of interest and/or upcoming events

Viable projects connecting people to the river, and the water in the city, are needed to guide efforts as redevelopment and green infrastructure initiatives are put into place in Troy and throughout the Capital Region. If they are pursued simply as a technical fix to the problem of local flooding and combined sewer overflows, they are unlikely to be well-understood, cared for, or supported by members of the communities. This has long-term implications for the sustainable funding and maintenance of these green infrastructures. This general conclusion was derived through participation in a political and technical panel discussion in Albany put on by the League of Conservation Voters of New York as well as direct feedback from local stakeholders at the exhibit of student work at the Arts Center of the Capital Region in Troy.

Introduction

Green infrastructure projects are an important means to achieving the goal of a “swimmable, fishable Hudson” by 2028 [1]. Some pilot projects are already in place in Troy and the Capital Region [cite] and more are being planned as part of the Capital District Regional Planning Commission, and through the Realize Troy Comprehensive Planning effort [2]. However, they are commonly pursued as technocratic solutions that are not accessible or intelligible to residents, and rarely offer additional social integration with natural systems, such as by providing public access to the waterfront.

This project aimed to build on local efforts by TAP, Inc., Troy Urban Trails, and the comprehensive planning effort to study the question of how green infrastructure might contribute to the networks of social and public spaces in Troy. To do this there was an emphasis on two different aspects: 1) where might it best be situated to achieve maximum socio-ecological impact, and 2) what type of green infrastructure should it be in terms of program, performance, and aesthetics.

Results & Discussion

Focusing along existing surface water corridors including the Hudson River, Wynantskill, and Poestenkill and providing hybrid pedestrian-hydrological linkages back into the communities and uplands seemed to be the most successful strategies. A proposal for redesigning the Poestenkill as a recreation corridor that could also detain peak stormwater flows was well received by the Troy City Planning office and by a local business owner with property on the stream. Both are considering adoption of the schematic proposal for further development. Additionally, a toolkit approach to Troy green infrastructure was developed considering topography, land use, and program, and this and other products are being adopted by the Capital District Regional Planning Commission as guidelines for green infrastructure developers.

Policy Implications

These developments suggest that a focus on highly visible green infrastructure projects that connect communities to existing waterways are likely to be the most effective immediate efforts, as they were the ones that merited support from both community members

and planning boards. Based on previous research, green infrastructure projects that are “end of pipe” or near existing surface water bodies should focus less on infiltration and detention and more on habitat, access to the waterfront, and retention.

For instance, there are currently multiple initiatives underway right now focused on the Wynantskill in Troy; undamming of the tributary by the DEC and USACE, and the local Troy Urban Trails project, which is trying to secure public access of an easement along the stream to complete a public trail network through the area. Our work suggests that these should be developed as one project in the future.

Methods

Our project methods were analytical and projective, and contained a major outreach and public discussion component that served as a feedback mechanism and means for testing assumption and results of the analysis and design process. At the outset of the work we partnered with local stakeholders with a track record of engaging community members regarding environmental justice, Hudson River water quality, public space provision, waterfront access, and combined sewer overflows. We were able to present our initial findings to these folks at a public meeting early in the process and incorporate their feedback as we developed the design scenarios.

As the project scenarios developed we worked with local partner TAP to set up a public exhibit in a downtown gallery. The goal was to bring the design ideas to the community and the opening of the exhibit was structured by a public panel discussion about green infrastructure in Troy that included the director of TAP, the City Planner, a representative of NYS DEC, the Director of Water Quality Programs for the CDRPC, and graduate students from Cornell University. The exhibit was able to stay up for two weeks and was seen by several hundred local community members (according to our own counts on the days we were there, together with the estimates of the staff at the Arts Center of the Capital Region).

This community input and level of outreach and engagement was a value add, layered on top of design process that included analysis of underlying urban

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landscape morphology (such as land use, vegetation, soil type, topography, existing park and street networks) related to green infrastructure performance. This analysis was combined with precedent research of best green infrastructure practices from some other cities to produce a green infrastructure tool kit tailored to Troy. This toolkit was shared with local authorities and served as a basis for the synthesis of the speculative scenarios by each student.

Outreach Comments

The outreach efforts were not a value add in this effort but were an integral mechanism for project inputs and feedback, so they've been detailed in the methods section. The specific groups that we were in contact with during this period included:

TAP, Inc. (Barb Nelson)
Hudson Riverkeeper (Dan Shapley)
Troy Urban Trails (John Johansson)
Troy Marina (Anasha Cummings)
Troy City Planning (Steve Strichman)
Troy Public Works Department (Chris Wheland)
NYS DEC (Emily Vail)
Capital District Regional Planning Commission (Martin Daley)

The outreach efforts were an invigorating, insightful, and meaningful component of the project, in particular the exhibition of student proposals (scenarios). It was also well-received by members of the community, and had an impact in surrounding communities. One visitor approached us about doing a similar visioning exercise for the Albany waterfront in the future. While beyond the scope of this work, a broader regional plan for recovering the waterfront of the Capital District, in conjunction with communities and regional and state authorities should be considered for funding.

Student Training

One graduate student served as an assistant on the project and was trained in three dimensional spatial modeling, gis mapping, and working with local stakeholders. Twenty-two students were trained in three dimensional modeling, cnc routing, and green infrastructure and public space design. Two more were trained in how to format and mount an exhibit, including a 4'x16' physical model of Troy and the Hudson River, which was donated to the local NGO for public demonstration of future water-related projects.

Publications/Presentations

At this time there have been no publications from this work, though a major journal article is in progress and a book chapter for a contracted manuscript with University of Pittsburgh Press is underway.

[Additional final reports related to water resource research are available at http://wri.cals.cornell.edu/news/research-reports](http://wri.cals.cornell.edu/news/research-reports)

References

1. Cleaner Waters for NY'S Capital District. Hudson Riverkeeper (17 January 2014, accessed June 12, 2017).
<https://www.riverkeeper.org/blogs/boat-blog/cleaner-waters-for-capital-district/>
2. Realize Troy, A New Comprehensive Plan. Completed 2016.
<http://www.realizetroy.com/abouttheproject/>

Appendices

1. Precedent project index
2. Green Infrastructure toolkit
3. Green Infrastructure Scenarios