

Case Studies: Green Infrastructure

Green Infrastructure in Lancaster City, PA



Watch: [Webinar 1: Incorporating Green Infrastructure for Stormwater and Other Co-Benefits](#)

Listen: ["S1 | E1: Green Infrastructure \(ft. Lancaster City and Provincetown\)"](#)

While Lancaster initially pursued green infrastructure (GI) as a stormwater management practice, it was GI's countless co-benefits that convinced city leadership that building sustainability into the community could foster economic growth, public health, and community development.

[Lancaster's citywide GI program](#) aims to incorporate green practices in public works projects wherever possible. As a result, the community has integrated GI into parks and recreation, walkability, public safety, and beautification projects. The City has also worked with businesses and residents to incorporate GI practices on private properties.

Crucial to Lancaster's GI success is its funding approach—grants cover up to 90% of implementation, while a stormwater utility fee covers routine maintenance. This funding scheme incentivizes residents to incorporate GI at low costs, while also using it for a credit against stormwater fees.

Green Infrastructure in Provincetown, MA



Watch: [Webinar 1: Incorporating Green Infrastructure for Stormwater and Other Co-Benefits](#)

Listen: ["S1 | E1: Green Infrastructure \(ft. Lancaster City and Provincetown\)"](#)

At the tip of Cape Cod, Provincetown relies on seasonal tourism—summer traffic swells annual population from 3,000 to up to 100,000. With stormwater quality challenges that led to annual beach closures, [Provincetown incorporated porous asphalt](#), a green infrastructure practice (GI), on its main downtown travel artery as an investment in water quality, community development, and economic vitality.

Provincetown's phased approach to GI has been characterized by community engagement. Town leaders and consultants have engaged regularly and individually with residents and business owners to garner public support and foster community understanding. This engagement has encouraged private investments, further beautifying downtown.

The Town leveraged the numerous co-benefits of its GI project to combine multiple grant funding opportunities (i.e., historic preservation, community development, transportation) for the porous asphalt project.

Case Studies: Resilience Planning

Resilience Planning in Annapolis, MD



Watch: [Webinar 2: “Integrated action planning for climate, social, and economic resilience”](#)

Listen: [“S1 | E2: Resilience Planning- Part 1 \(ft. Annapolis, MD\)”](#)

As climate change and sea-level rise risk flooding and inundation, the vitality of Annapolis’ economic core and the livelihood of its people are put in jeopardy.

Annapolis is addressing its challenges by taking a comprehensive approach to resilience planning. The City is embarking on a bold initiative to raise City Dock, its downtown economic hub, to accommodate for sea-level rise. In doing so, the plan incorporates new green spaces, sustainable stormwater management practices, and public access to City Dock. The project also invests in the local economy to foster growth, vibrance, and resilience.

[The City Dock project](#) is also tied to the reconstruction of the nearby Hillman Garage, creating multiple efficiencies. A new resilience financing authority will be created to manage the large capital investments of the City Dock project, and well as future resilience investments.

Resilience Planning in Hoboken, NJ



Watch: [Webinar 2: “Integrated action planning for climate, social, and economic resilience”](#)

Listen: [“S1 | E3: Resilience Planning- Part 2 \(ft. Hoboken, NJ\)”](#)

After being hit by Hurricane Irene in 2011 and Superstorm Sandy in 2012, the City of Hoboken faced an immediate call to address resilience on all fronts—environmental, social, and economic.

In 2014, [Hoboken was awarded a portion of a \\$230M “Rebuild by Design”](#) grant from the US Department of Housing and Urban Development to incorporate open space, built infrastructure, and green infrastructure to enhance the community’s resilience in the face of climate threats. Hoboken’s long-term strategy for resilience is “Resist, Delay, Store, Discharge,” a four-pronged approach to managing inundation from extreme weather events.

Hoboken’s ambitious approach to bolster its resilience is a long-term commitment that directly confronts climate hazards. With the increasing likelihood of catastrophic storm events, Hoboken’s strategy for resilience must include environmental, social, and economic concerns.

Resilience Planning in New Bedford, MA



Watch: [*Webinar 2: “Integrated action planning for climate, social, and economic resilience”*](#)

Listen: [*“S1 | E4: Resilience Planning- Part 3 \(ft. New Bedford, MA\)”*](#)

New Bedford’s diverse community is home to one of the most valuable fishing ports in the country. As climate risks continue to compound, New Bedford has worked to enhance its economic, social, and environmental resilience.

In 2018, New Bedford was awarded a state action grant to develop a citywide resilience plan and online dashboard. [NB Resilient](#) is a dynamic planning document and interface that tracks resilience progress across key focus areas (natural resources, economy and jobs, public infrastructure, etc.) and cross-cutting themes (equity and empowerment, city character, etc.).

New Bedford has been especially successful on areas of social resilience. As an Environmental Justice community, New Bedford’s workforce development and resilience hub initiatives have aimed to strengthen populations with disproportionate vulnerability to climate threats.

Case Studies: Waterfront Redevelopment

Waterfront Redevelopment in Boston MA (*The Harborkeepers*)



Watch: [*Webinar 3: Revitalizing Waterfront Communities through Comprehensive Redevelopment*](#)

Listen: [*“S1 | E5: Waterfront Redevelopment- Part 1 \(ft. Boston Harborkeepers\)”*](#)

Facing particularly dramatic long-term impacts from climate change and sea-level rise, the City of Boston has launched the “[Climate Ready Boston](#)” planning initiative to enable the community to adapt to climate hazards, especially those facing the Boston Harbor waterfront.

[The Harborkeepers](#)—a grassroots non-profit focused on community sustainability, resilience, and stewardship—has been a key organization throughout the Climate Ready Boston planning and advocacy process. With a large, diverse waterfront population across East Boston, Harborkeepers engages the community on climate issues by making the case for personal action and genuine participation. By ensuring diverse community members have entry and access to every aspect of redevelopment and resilience decision-making, Harborkeepers has fostered robust community education and engagement at all project stages.

Waterfront Redevelopment in Annapolis, MD (City Dock)



Watch: [*Webinar 3: Revitalizing Waterfront Communities through Comprehensive Redevelopment*](#)

Listen: [*"S1 | E6: Waterfront Redevelopment- Part 2 \(ft. ULI/City Dock Experts\)"*](#)

As Annapolis bolsters the resilience of downtown City Dock, the community is also pursuing redevelopment and economic growth.

[The City Dock Action Committee](#) (CDAC), a 92-member group tasked with developing an actionable vision for City Dock, leads the revitalization. CDAC is divided into smaller working groups, each with a focus on key issues related to the area's redevelopment. Involvement from key stakeholders (Historic Annapolis, National Parks Service, etc.) and community members has resulted in a community-driven process. This widespread engagement has allowed CDAC to build on previous ULI TAP recommendations to sustainably redevelop City Dock.

A key component of the City Dock project is the creation of a countywide resilience financing authority. The proposed authority will enable the City and the County to efficiently invest in long-term resilience projects at the large scale necessary to effectively adapt to climate threats.

Waterfront Redevelopment in Tilghman Island, MD



Watch: [*Webinar 3: Revitalizing Waterfront Communities through Comprehensive Redevelopment*](#)

Listen: [*"S1 | E7: Waterfront Redevelopment- Part 3 \(ft. Tilghman Island, MD and Working Waterfronts\)"*](#)

As a historic working waterfront community, Tilghman Island must approach redevelopment with considerations of how it will balance traditional waterfront uses and the growth of the tourism industry—two uses that, at times, come into conflict.

Tilghman Island has done this through [Maryland's Working Waterfronts Program](#), part of a larger national effort to provide traditional waterfront communities with the resources to address their unique challenges and strengthen their industries. Tilghman Island's need for balance between its mixed uses has led to portions of the community being set aside through zoning for specific water-dependent uses.

The state funding from the Working Waterfronts Program provides small communities like Tilghman Island with the resources and assistance needed to engage in redevelopment and resilience improvements in ways they might otherwise be unable to.

Waterfront Redevelopment in Chattanooga, TN



Watch: [*Webinar 3: Revitalizing Waterfront Communities through Comprehensive Redevelopment*](#)

Listen: [*"S1 | E8: Waterfront Redevelopment- Part 4 \(ft. Chattanooga, TN\)"*](#)

Waterfront redevelopment in Chattanooga has taken place multiple times since the 1980s, with each new phase of revitalization repositioning the City to face the challenges ahead. Today, the "One Riverfront Chattanooga" initiative aims to unify the City's waterfront core while strengthening neighborhood areas outside of downtown.

[River City Company](#) is the economic development engine that had led the revitalization of Chattanooga over the last three decades. The non-profit group works with local and regional government to introduce investment into downtown. Chattanooga has used tax-increment financing (TIF) to encourage development, with an increment of accommodations tax increases being used to pay for debt on bond issuance. Chattanooga has also been successful in engaging philanthropic investors, leveraging the City's history in manufacturing to enter into public-private partnerships (P3s) with local foundations.

Waterfront Redevelopment in Burlington, VT



Watch: [*Webinar 3: Revitalizing Waterfront Communities through Comprehensive Redevelopment*](#)

With a history of industrial uses, the City of Burlington has completely reimagined its community in recent decades, leveraging the Lake Champlain waterfront as a central component of its revitalization.

Burlington's downtown has become a classic New England main street, with a vibrant economy that draws in residents and tourists alike. The City uses multi-purpose parks and green spaces as recreation areas, civic spaces, and stormwater management tools. With coordination between the environmental and economic components to redevelopment, Burlington has integrated [sustainability into its revitalization model](#).

Tax-increment financing (TIF) was the primary financing mechanism for Burlington's redevelopment, with TIF making up almost 90% of the City's waterfront investment before 2010. With TIF proving successful in past projects, [Burlington is employing it once more for redevelopment of the Burlington Town Center](#).

Case Studies: Smart Growth

Smart Growth in Portland, ME



Watch: [Webinar 4: Smart Growth and Strategic Zoning for Livable Communities](#)

As a historic working waterfront, [Portland's Plan 2030](#) aims to foster one strong, connected city—a robust waterfront industry, a reinforced downtown, complete neighborhoods, and a vibrant tourism community.

As part of its 2030 planning initiative, Portland is rewriting its land use code for the first time in a half-century. The City's new form-based code, [ReCode Portland](#), aims to address a multitude of issues areas, including energy, housing, and design. Portland's planning approach incorporates a number of different smart growth components, including focuses on transportation, sustainability, and green infrastructure.

The City's stormwater utility funds a portion of its sustainability programs. A two-year process of initial community engagement was crucial to gaining public support for the stormwater fee. This engagement process is still ongoing, and City leaders cite this engaged, holistic community outreach as integral to the program.

Smart Growth in Ranson, WV



Watch: [Webinar 4: Smart Growth and Strategic Zoning for Livable Communities](#)

Listen: ["S1 | E9: Smart Growth-Part 1 \(ft. Ranson, WV\)"](#)

Ranson's forward-thinking approach to community redevelopment has proved successful. After decades of investment in developing Ranson as a sustainable community, the City was well-equipped to support an influx of full-time residents during the COVID-19 pandemic.

The City's recent form-based [SmartCode](#) update has incentivized redevelopment that fits within the larger community, while still allowing flexibility of uses. Ranson's SmartCode has directed economic growth around the City's Green Corridor, a brownfields revitalization project that connects the community via accessible green spaces.

To date, Ranson's investments in smart growth have attracted over \$300M in investments in the community. Funding for Ranson's initiatives has come predominately from federal grants, with minimal use of City funds. Ranson's use of form-based coding prescribes a specific vision for growth: a walkable, mixed-use, multi-modal community.

Smart Growth with the Low Impact Development Center (Beltsville, MD)



Watch: [*Webinar 4: Smart Growth and Strategic Zoning for Livable Communities*](#)

[The Low Impact Development \(LID\) Center](#) is a Maryland non-profit focused on sustainable stormwater solutions in developing urban areas. The LID Center approaches sustainable stormwater management with a transportation lens, making its work integral to the broader smart growth conversation.

The LID Center conducts research, provides designs, and runs demonstration projects as part of its scope of work. From submerged gravel wetland demonstration sites, to professional trainings on LID practices, to planning and designing a green highways program, the LID Center's work serves as building blocks to the broader smart growth movement.

Smart Growth in Warwick, RI/RIPTA



Watch: [*Webinar 4: Smart Growth and Strategic Zoning for Livable Communities*](#)

Listen: [*"S1 | E10: Smart Growth-Part 2 \(ft. Warwick, RI/RIPTA\)"*](#)

As Rhode Island's third-largest City and the home of the state airport, Warwick, RI approached redevelopment of [City Centre Warwick](#) with a transportation-oriented lens. Warwick's revitalization aimed to develop the City as a regional transit hub, linking residents and visitors to Boston, Providence, and New York City.

The City Centre Warwick master planning initiative included zoning changes around the airport-centric redevelopment district, which incentivized accommodations, walkability, and redevelopment of existing industrial parcels and buildings.

With success securing multiple grants for City Centre Warwick, the community's biggest necessity was garnering public support and engagement. An engaged stakeholder process allowed the City to raise the awareness and support necessary to pursue the large-scale changes promised by City Centre Warwick.

Smart Growth with Grow Smart Rhode Island (Providence, RI)



Watch: [Webinar 4: Smart Growth and Strategic Zoning for Livable Communities](#)

[Grow Smart RI](#) is a statewide advocacy group focused on smart growth initiatives and policy in the State of Rhode Island. Grow Smart envisions a statewide community with diverse uses, protected natural resources, and efficient and accessible transportation options.

Grow Smart provides advocacy for state and local smart growth policies, as well as trainings for professionals on smart growth topics. The group's annual awards and biennial conferences recognize state leaders and bring together regional professionals on smart growth topics.



This report was produced by the dedicated team at [Throwe Environmental, LLC](#) in the company's role as a core partner within the SNEP Network. Throwe Environmental is committed to developing climate resilience, environmental finance, and policy and governance solutions for its public, private, and nonprofit clients. As a SNEP Network partner organization, Throwe Environmental focuses on financing, training, and leadership development. Throwe Environmental is based in Bristol, RI and helps communities nationwide address their climate challenges.