



Green Infrastructure and Gentrification: Harness the Benefits, Avoid the Displacement



URBAN WATERS
LEARNING NETWORK



WELCOME TO THE LEARNING SESSION

Green Infrastructure and Gentrification: Harness the Benefits, Avoid the Displacement

While you wait ...

- In the chat box, share your organization, the native lands from which you're joining, and your preferred pronouns (if you are comfortable).

<https://native-land.ca/>

<https://www.mypronouns.org/what-and-why>

- Please use the chat box for questions.
- Please fill out the post-event survey so we can improve!

<https://www.rivernet.org/training-evaluation/>



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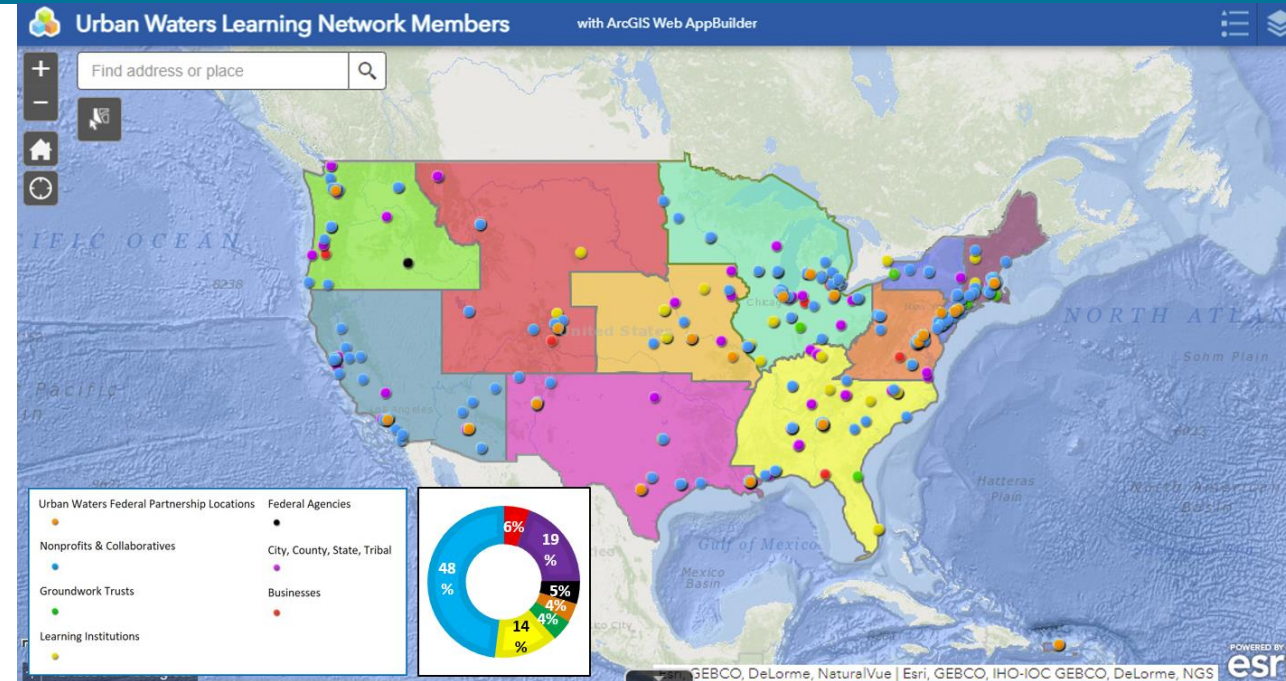


ABOUT THE URBAN WATERS LEARNING NETWORK

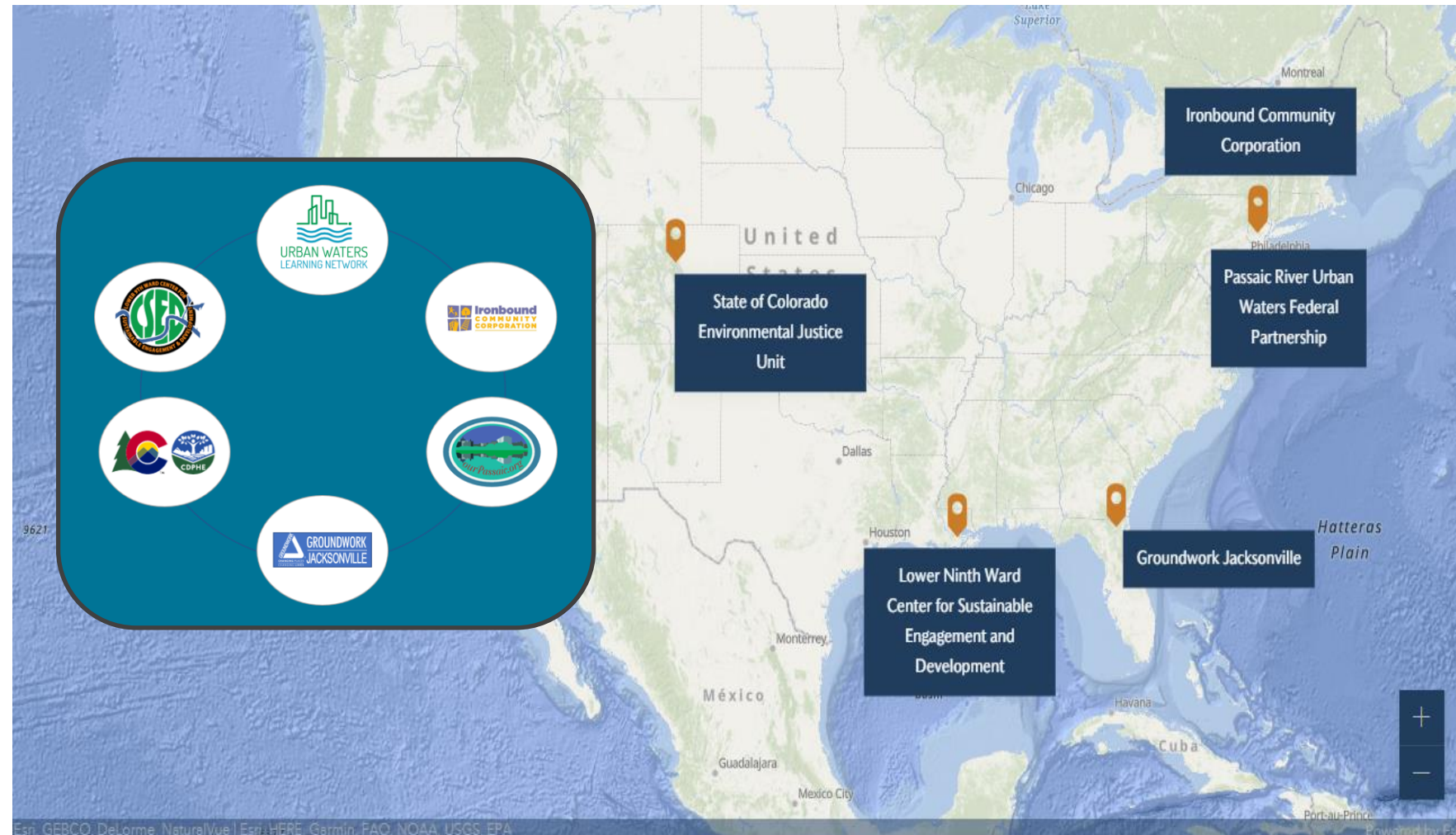
With funding from EPA's Urban Waters Program, Groundwork USA and River Network coordinate the Urban Waters Learning Network (UWLN).

We deliver tools, training, mentoring, and financial assistance to support the work of UWLN members as they collaborate, develop solutions, and elevate community priorities.

Meet the network and access resources for urban waters organizations on our website: urbanwaterslearningnetwork.org



UWLN Equitable Development and Anti-Displacement Collaborative



<https://urbanwaterslearningnetwork.org/equitable-development-and-anti-displacement-collaborative/>

Poll Question(s):

To what extent is your community experiencing displacement pressures due to gentrification?

- I don't know
- Not at all - not seeing gentrification OR displacement
- It's on the horizon - we anticipate increasing displacement pressures in 2-5 years
- A small number of residents and local businesses are getting pushed out
- A significant number of residents and local businesses have already left



SPEAKERS



Jen McGraw, Director
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**Green Stormwater Infrastructure & Anti-Displacement
Center for Neighborhood Technology
April 2023**

About CNT

CNT delivers innovative **analysis and solutions** that support community-based organizations and local governments to create neighborhoods that are equitable, sustainable, and resilient.

GSI & Property Values

Project funded by Kresge Foundation, looked at Green Stormwater Infrastructure (GSI) to:

- Determine if and to what degree distributed GSI changes residential real estate value
- Make the benefits and cost of GSI more transparent to developers, landscape designers, policy makers, advocates and residents, including:
 - Opportunities for GSI funding and financing
 - Actions to pre-empt displacement risk

<https://cnt.org/publications/green-stormwater-infrastructure-impact-on-property-values>

GREEN STORMWATER INFRASTRUCTURE
IMPACT ON PROPERTY VALUES



Research Findings

What we found:

- Doubling the square footage of rain gardens, swales, planters, or pervious pavement near a home is associated with a **0.28% to 0.78% higher** home sale value, on average.

What this means:

- A homeowner with a \$250,000 home could see an increase of \$700 to \$1,950 in home sale value with a doubling of nearby GSI.

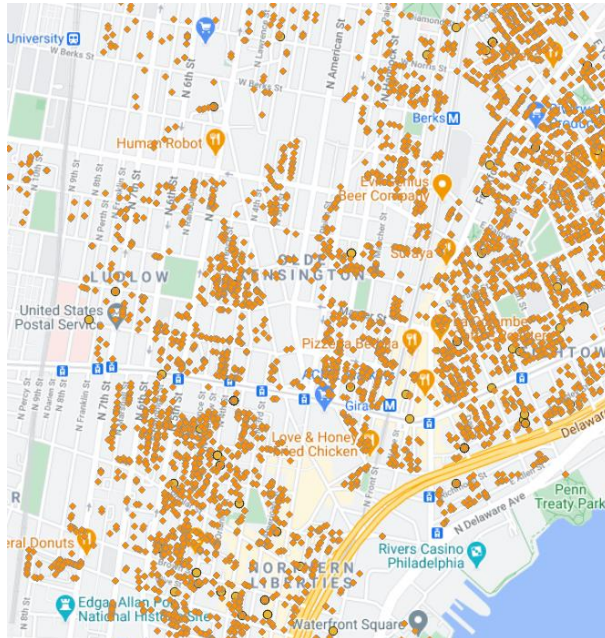
GSI Valuation

- Assessed home sales data from 3 cities
- Spatially joined with available GSI data
- Ran regression model to determine impacts on property values



Methodology, property characteristics

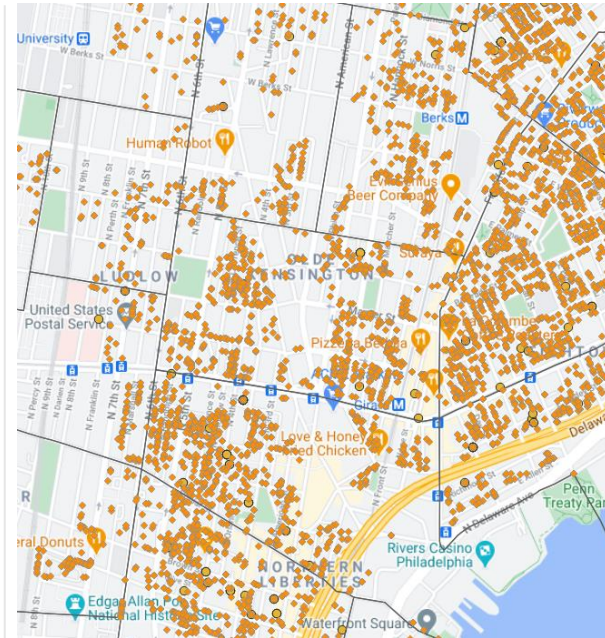
Property Characteristics



- Residential Unit Type
- Number of Bedrooms/Bathrooms
- Living area square footage
- Presence/absence of fireplace
- Presence/absence of garage
- Sale date



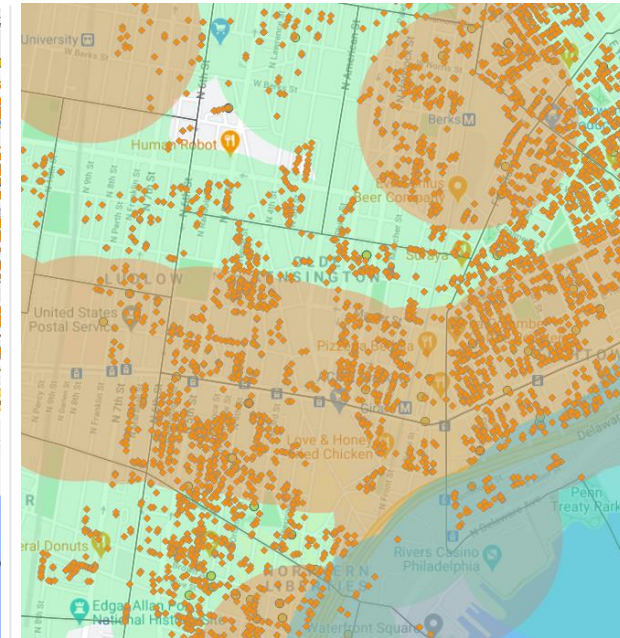
Neighborhood Characteristics



- Percentage of residents with a bachelor's degree or higher
- Percentage of households with income below the poverty threshold
- Owner-occupancy percentage



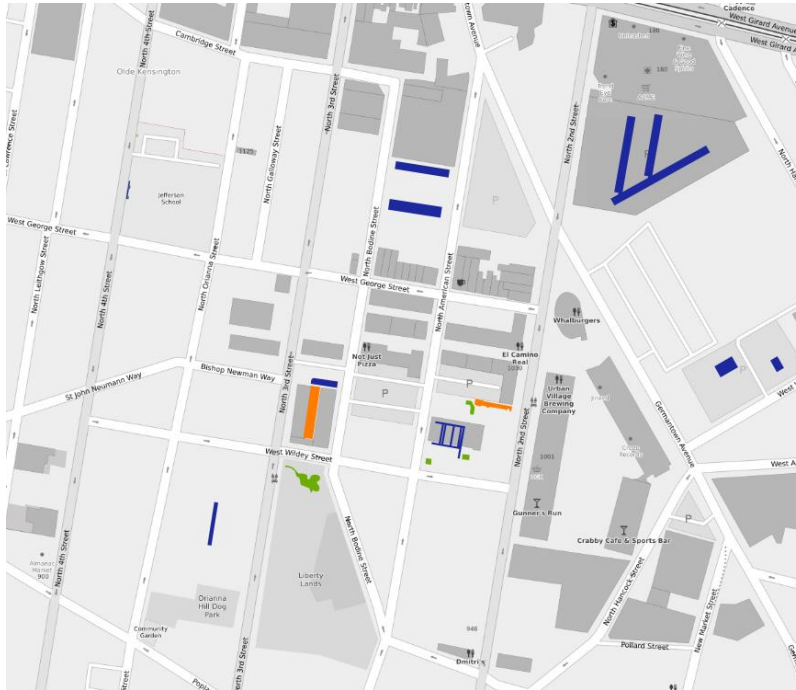
Spatial Amenities



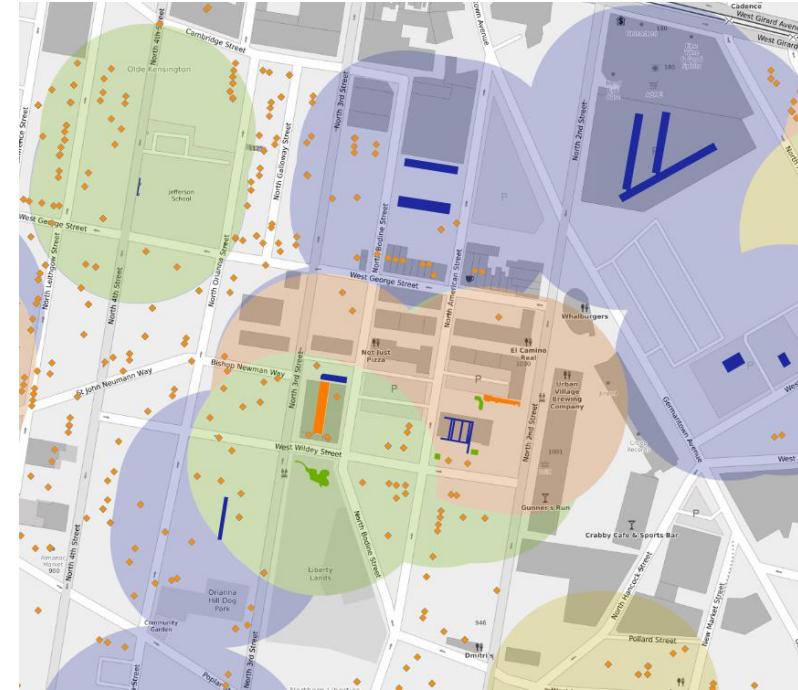
- Property within half- or quarter-mile buffer of:
 - Fixed guideway transit station
 - Water feature
 - Public park

Methodology, GSI characteristics

GSI Data



250' Buffer



GSI Types	Group
Rain Garden	1
Swale	1
Bumpout	1
Planter	1
Basin	2
Trench	2
Wetland	2
Pervious Pavement	3
Green Roof	4
Cistern	4
Tree Trench	0



- Matched properties within 250 feet of a GSI by type
- Indicated if GSIs were located within parks
- Aggregated GSI data (count, size, year installed) in cases where properties intersected multiple buffers

Applying Findings

<https://greenvalues.cnt.org>

CNT GREEN VALUES®
STORMWATER MANAGEMENT CALCULATOR
About Calculator Resources

Site Information
Green Improvements

Avg. Annual Rainfall: 32.64 inches ?

Volume Capacity Capture Goal edit goal

Increase the capacity of the landscape to capture at least 0.5 inches of water over the impervious areas. For this scenario that is equal to 79 ft³ or a volume of 591 gallon.

Single Site	Life-cycle Cost	% of Goal
<p>The Green Infrastructure BMPs included below can provide runoff reduction benefits through infiltration, evapotranspiration, and reuse of captured stormwater for irrigation and other non-potable uses. Green infrastructure BMPs provide additional environmental benefits including carbon sequestration, reduced energy use, and groundwater recharge in addition to reduced construction and maintenance costs and extended design life. Experiment with applying different combinations of BMPs then see how you can progress towards meeting the specified runoff reduction goal, reduce total runoff volume from the site (annually and for the average storm), reduce site imperviousness, and affect life-cycle costs and benefits.</p>		
<input type="checkbox"/> Green Roof	\$0	0%
<input checked="" type="checkbox"/> Rain Barrel	Total: \$739	9.4%

100.0%
0 Volume Captured 100

Total Cost: \$22,891

Results: The green infrastructure applied in this scenario increases the area's potential volume capture capacity by **387 ft³** or **492.8%** of the desired goal.

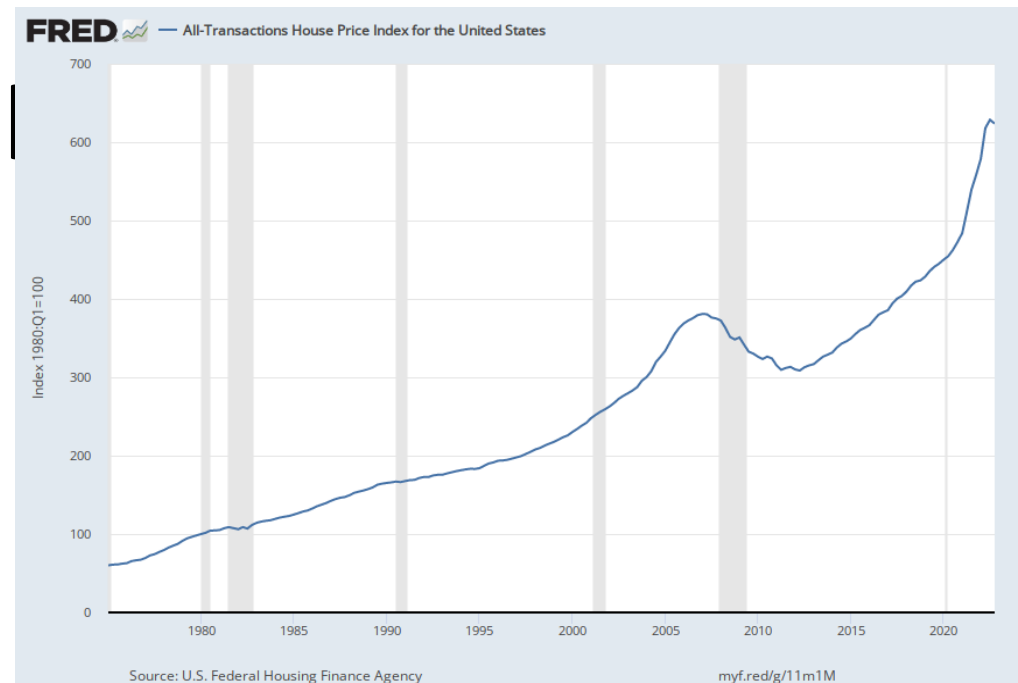
Site Overview	Volume	Runoff	Costs	Benefits
Runoff and Hydrology				
Runoff				
	Without BMPs	With BMPs	Difference	
Average Annual Rainfall: 32.64" Rain				
Runoff	3.872"	2.233"	42%	
Runoff Volume	1960.4 ft ³ 14665 gal.	1130.3 ft ³ 8455.4 gal.	830.1 ft ³ 6209.6 gal.	
Average Storm Rainfall: 2.33" Rain				
Runoff	1.035"	0.747"	28%	
Runoff Volume	524 ft ³ 3919.6 gal.	378 ft ³ 2827.5 gal.	146 ft ³ 1092.1 gal.	
Hydrology				
	Without BMPs	With BMPs	Difference	
Average Initial Abstractions Rainfall: " Rain				
Initial Abstractions	0.36"	0.52"	0.16"	
Initial Abstractions Volume	180.93 ft ³ 1353.45 gal.	261.98 ft ³ 1959.78 gal.	81.05 ft ³ 606.33 gal.	
Average Cumulative Abstractions				
Cumulative Abstractions	1.79"	2.59"	0.8"	

Applying Findings

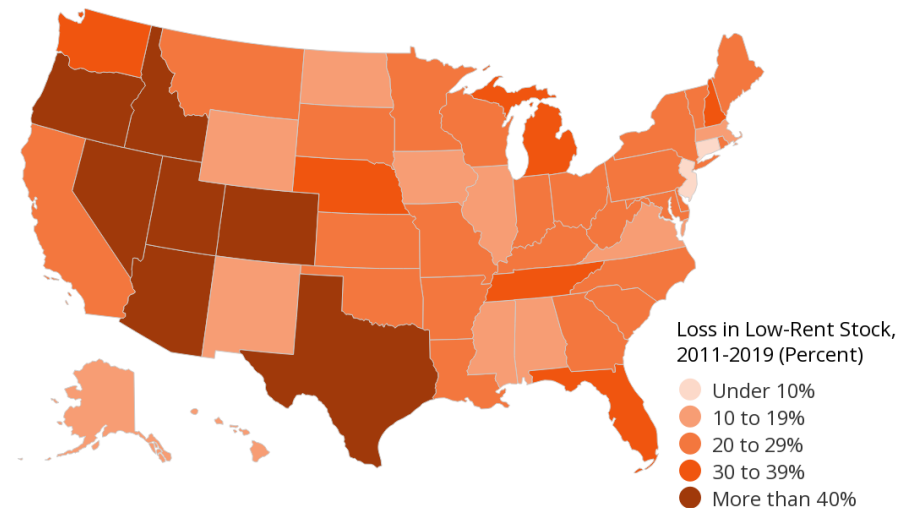
- Property value benefits can be **part of** GSI funding financing plans.
 - If the impact we found holds at scale, a community of 10,000 homes could see \$7 million to \$20 million in value created by doubling the size of GSI near each home.
- However, property value increases can create housing insecurity for renters, seniors and other residents.
 - Communities must take **pre-emptive action** to address any potential displacement risk or financial stress caused by GSI's impacts on home values, including:
 - Community Planning
 - Community Ownership
 - Renters Rights and Affordable Housing
 - Job Creation

Big

- Many large forces contribute to housing insecurity and neighborhood destabilization beyond green investment, for example:
 - Property speculation and institutional investors
 - Historic underinvestment and racism
 - Jobs/housing imbalances and barriers to multifamily homes
 - Short-term rentals and vacation homes
 - Climate emergencies and other hazards
 - Power imbalances and broken trust
 - Income inequality
 - Rising costs—food, energy bills and more



Every State Has Lost Low-Rent Units Since 2011



Anti-Displacement Approaches

- Just because it is a big issue doesn't mean you can't act
- Invest in communities for the people who live there; for those who plan to stay; to sustain the teachers and caregivers
- Think outside the current grant, project, or agency
- You do not have to do everything yourself: collaborate with housing, workforce, and other specialists
- Invest & scale up existing solutions
- Big change may be needed: e.g. state rent control policy
- Remove barriers to good things: find ways to say "yes" to local initiatives, pay upfront, coordinate approvals, give technical assistance
- Respect local timelines: Allow time for learning and trust building, also be available for urgent issues
- Transparency is essential: communities need data *well in advance of decision-making* to engage meaningfully

Anti-Displacement Approaches

Displacement Risks (an Incomplete List)	Best Practice Solutions (Examples)
Homeowners: Property taxes rise as values rise	Tax discounts and assessment freezes
Homeowners: Homes lost in probate and not passed down generations	Estate planning
Future homeowners: Home purchase prices higher than local incomes	Land trusts and other tools to limit speculation / price shocks
Workers: Incomes don't meet housing costs	Local hiring Wage standards Job training
Renters and Future Homeowners: Short term rentals for tourists competing for homes	Short term rental controls
Renters: Rents rise	Rent controls Renters rights Affordable housing production

Displacement Risks (an Incomplete List)	Best Practice Solutions (Examples)
Community: Value created by investment accrues to outsiders	Community benefits agreements Value capture
Community: Projects don't match community vision/needs	Community planning from day 0 Incorporation of broader community needs in green projects Funding for existing community needs
Businesses: Affordable basic needs leave neighborhood, long time business can't keep up with rising costs	Legacy business protections and grants Local contracting and training

Current Context & Next Steps

- GSI is proven to work. Funding for GSI is increasingly available
- **Equity-focused investment is needed** to ensure racially and socially marginalized communities benefit (*definition of equity needs to be informed by/with community*)
- Lots of tools available to quantify the benefits of GSI, map disadvantaged communities and land uses, etc. but **data alone do not drive action**
- Community members may have **different high-priority needs** than those of GSI practitioners
- **Public investments must solve multiple problems** at the same time to achieve the scale and timeliness needed to respond to climate change
- CNT ongoing and upcoming work (<https://cnt.org/newsletter>):
 - GSI & anti-displacement toolkit
 - Fact sheets for practitioners
 - Technical assistance for community based organizations
 - Tools to explicitly center community needs in GSI decision-making

Thank

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Green Infrastructure and Gentrification: Harness the Benefits, Avoid the Displacement



Beatrice Ohene-Okae
Member Leader

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Jess Smith, PE
Member



the **green** infrastructure
leadership exchange

Advancing Equitable GI Implementation

AGENDA

- EXCHANGE OVERVIEW
- IMPORTANCE OF PREVENTING DISPLACEMENT
- BEST PRACTICES & EXAMPLES FROM THE EXCHANGE'S *EQUITY GUIDE*
- Q & A



Activate local governments & stormwater agencies in the U.S. & Canada to implement green stormwater infrastructure (GSI) equitably.

Solutions that manage stormwater are a natural way to reduce pollution, bring value to our community, and make it a better place to live.

Local governments and utilities can make smart investments in stormwater management.

Pocket parks add green spaces and enhance neighborhoods.

Bioretention areas reduce pollution and beautify the landscape.

Enhancing paved parking lots with more landscaping helps promote local jobs.

Permeable paving and planter boxes help reduce flooding.



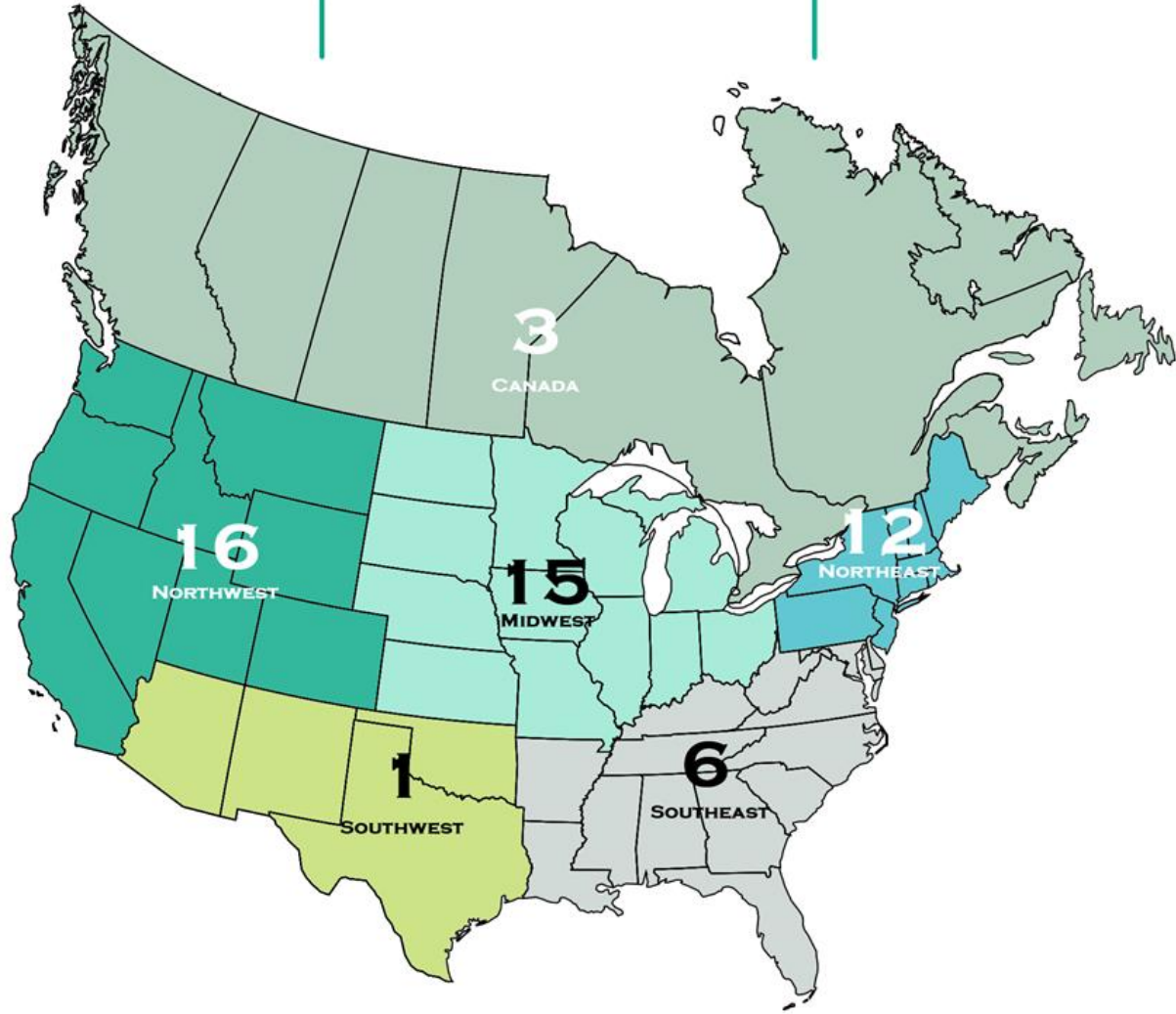


54

MEMBER ORGANIZATIONS

360

INDIVIDUAL MEMBERS

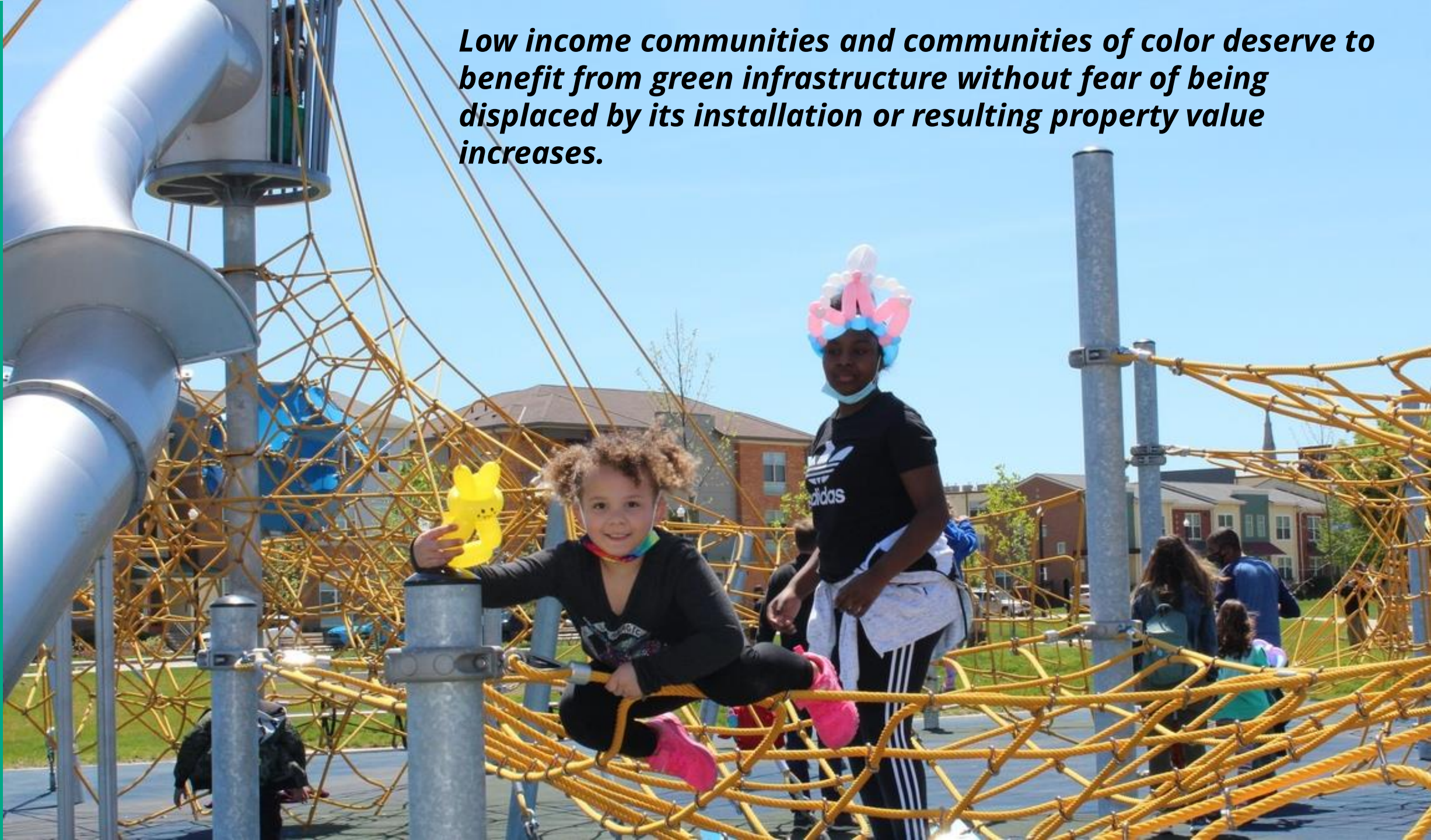


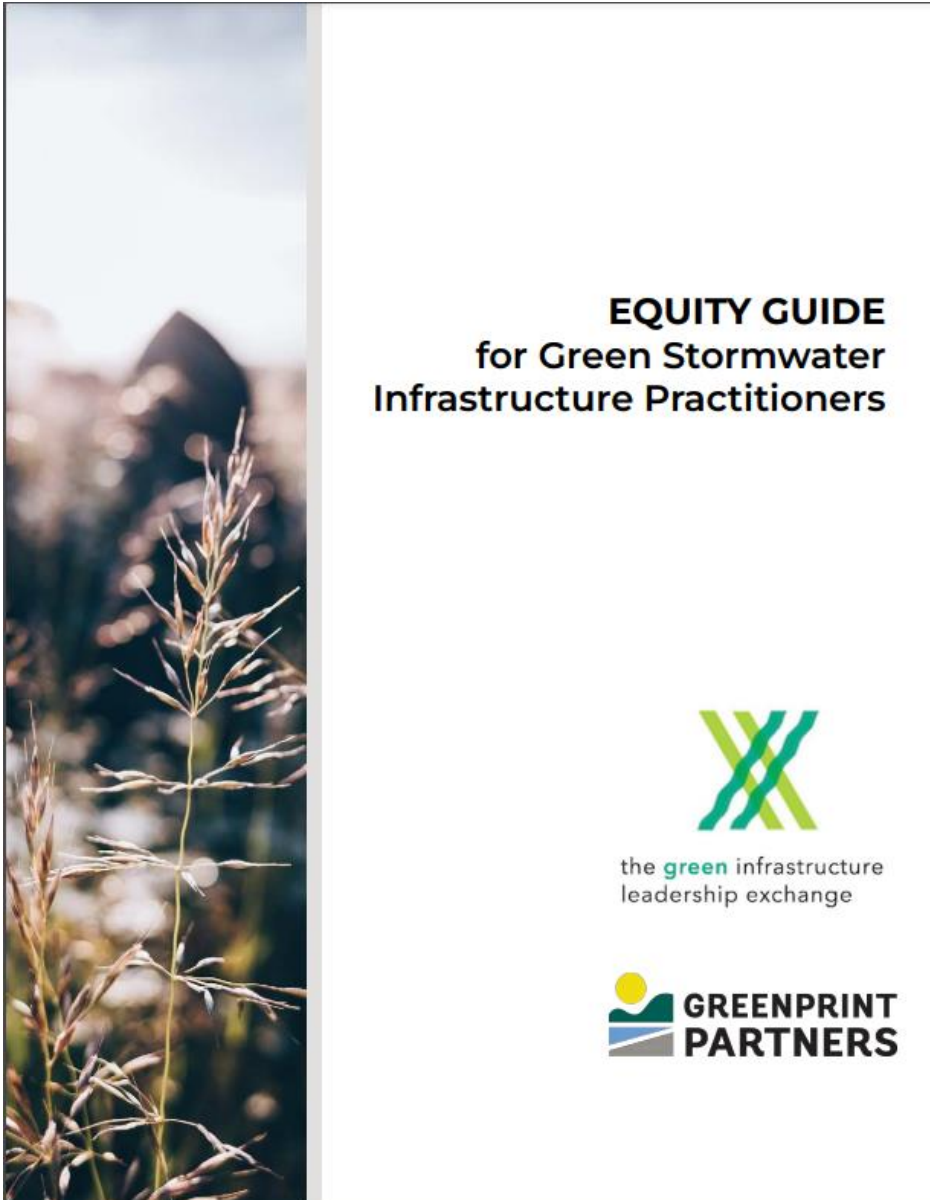
A “Social Impact Network,” i.e.,

- “A group of **individuals** ... seeking to solve a difficult **problem** in society by working together, adapting over time, and generating a sustained flow of **activities** and **impacts**.”¹
 - **INDIVIDUALS**: Local government GSI practitioners in the U.S. and Canada who are planners, landscape architects, engineers, environmental scientists, etc.
 - **PROBLEM**: How do we utilize GSI to comply with regulatory requirements to manage stormwater, while also realizing co-benefits that will ameliorate historic inequities in disadvantaged communities?
 - **ACTIVITIES**: (1) Peer Learning; (2) Re-grant Program; (3) Leadership & community engagement training; (4) Evidence-building (e.g., *The State of Public Sector GSI*)
 - **IMPACTS**: Innovations in GSI practice that will ensure that GSI implementation lives up to its promise as a solution to both stormwater management and improving livability in disadvantaged communities.

¹ P. Plastrik, et. al. *Connect>Innovate>Scale Up: How Networks Create Systems Change* (2022).

Low income communities and communities of color deserve to benefit from green infrastructure without fear of being displaced by its installation or resulting property value increases.





What is the Guide

- Action and evaluation roadmap that defines our industry's shared long-term equity goals,
- Sample metrics that help us track progress toward those goals over time,
- Best practices that will ultimately move the needle, and
- Tools to support individual practitioners in customizing community-informed equity work plans, equity impact metrics, and evaluation plans to local contexts.

Audience

- Organizations: Cities, utilities, and other related agencies that the Exchange serves.
- Individuals: Green infrastructure program managers and their supporting teams.
- Scale: Green infrastructure program scale (inclusive of policies, practices, and initiatives)

- Focused on 7 goals for ensuring equitable GI implementation.
- Also includes other resources to help with implementing each goal:
 - Literature Review
 - Best Practices
 - Evaluation Roadmap
 - Equity Indices

1	Internal Readiness	Our team understands equity and we are committed and equipped to advance it through our work.
2	Centering Community	Community members are essential partners and participants in all green infrastructure planning and development.
3	Siting + Investment	Our project selection approach and investment levels proactively consider potential to advance equity.
4	Benefits-Driven Project Development	Our green infrastructure projects are designed, constructed, and maintained to provide lasting community benefit.
5	Economic Stability	Our green infrastructure procurement, employment, and workforce development practices build economic stability and wealth for underinvested communities.
6	Preventing Displacement	Displacement risk is proactively addressed in all of our green infrastructure programs, policies, and projects.
7	Programs + Policies	Our green infrastructure policies and program design, management, and reporting structures proactively elevate and drive transparency around equity.

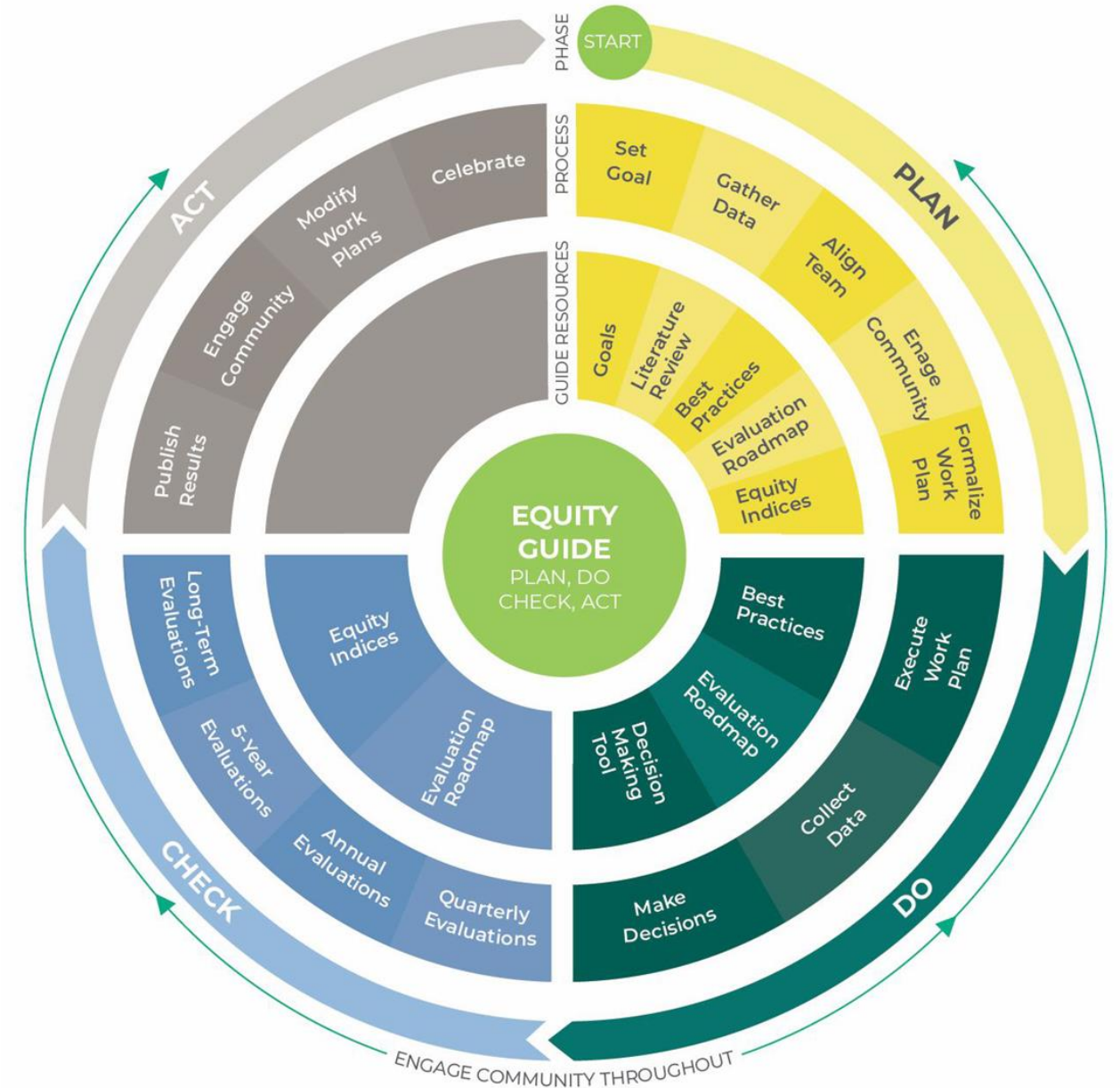


1. CENTER COMMUNITY IN DEVELOPING SOLUTIONS

- Engage in dialogue with impacted community and anti-displacement experts about how to mitigate the risk of displacement.
- Track the percent of stakeholders living within the impacted community who provide input that is ultimately reflected in plans.

2. CREATE A PLAN

- Develop an anti-displacement plan.
- Track the percentage of programs and projects with real or perceived displacement risk that are accompanied by an anti-displacement plan that has been written with input and buy-in from anti-displacement experts, impacted community members, and staff.
- Track the percentage of strategies identified in the anti-displacement plans that are being implemented.



3. COLLABORATE

- Collaborate with others to facilitate multi-agency strategies to combat displacement.



4. EVALUATE

- Develop and implement an approach to evaluating the extent to which a green infrastructure project or portfolio of projects may have contributed to displacement.

Evaluation Roadmap

Measure What Matters	Survey Questions
WITHIN THE COMMUNITY	
Are we being proactive about preventing displacement	“To what extent do you feel XYZ Program / Project may contribute to displacement in your community?”
Are we earning community trust?	“To what extent do you have a trusting relationship with your local stormwater management organization?”
Were our anti-displacement efforts successful?	“To what extent do you feel XYZ Program / Project contributed in displacement within your community? “To what extent do you feel the Program/Project actively protected against future displacement within your community?”
WITHIN THE SMO	
Is our team fluent in anti-displacement strategies	“To what extent do you feel well-versed in anti-displacement practices and policies?”
Are we working across silos to prevent displacement	“To what extent are anti-displacement practices applied across agencies?”

HISTORIC OLD 4TH WARD PARK - ATLANTA

Atlanta realized that they hadn't proactively considered and acted on ways to protect the community from displacement.

The City took this lesson to heart and in the next project, they worked with Invest Atlanta to create tax relief, invest in repair, and require robust community partnerships throughout.



Access our publications at:
<https://giexchange.org/resources/>

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Additional Resources

Looking for more resources on Equity, Diversity, and Inclusion in your work?

- [UWLN Racial Equity Series](#)
- [Equity, Diversity, and Inclusion at River Network](#)
- [UWLN additional Resources](#)
- [RN Additional Resources](#)
- ["So you want to hire an equity consultant" article](#)





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Thank you!

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Share your feedback:

<https://www.rivernetwork.org/training-evaluation/>