



DESIGN ISSUES SERIES (DIS)

WATERSHED 2022





CONTENTS

04 Environmental Justice Series

10 Watershed Projects

20 Exhibits

28 Takeaways

30 What is (DIS)?

ENVIRONMENTAL JUSTICE SERIES

(DIS) 2021-2022

Architects are in the habit of using the term “built environment” to refer to spaces that have been shaped by human interventions. The phrase tends to conjure images of cities, high-rises, houses, residential streets, hospitals, and highways. But even seemingly ‘natural’ landscapes—like farms and nature preserves—are built out with roads, fences, and other infrastructure.

In a time of global warming, every environment is shaped by human activity. That also means that every person’s experience of nature is shaped by human relations (and human decisions), and, as a result, the inequities that structure our society are reproduced in seemingly ‘natural’ experiences.

ENVIRONMENTAL JUSTICE SYMPOSIUM

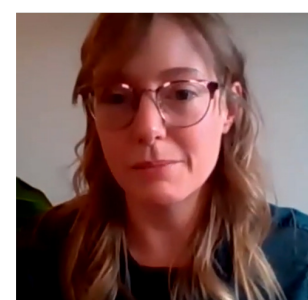
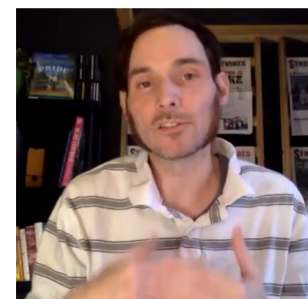
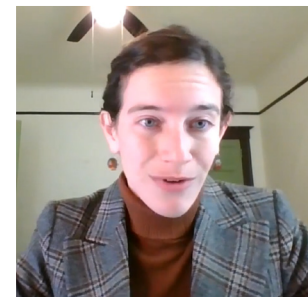
2020 was a time of crisis—a climate crisis, a public health crisis, a crisis in the racial politics of the United States—but also a time of hope. Still in the midst of COVID-related lockdowns and protests against systemic racism, in 2021, GBBN's (DIS) Committee hosted a virtual conference on Environmental Justice.

Over two days, we convened a series of panel discussions, hosting community organizers, city officials, mission-driven developers, researchers, architects, and elected officials from Cincinnati, Louisville, Minneapolis, and Pittsburgh.

Our goals were to:

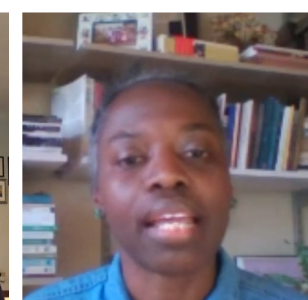
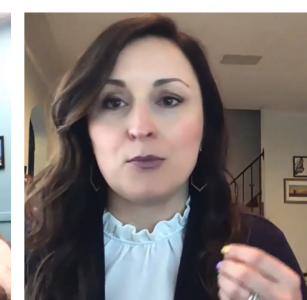
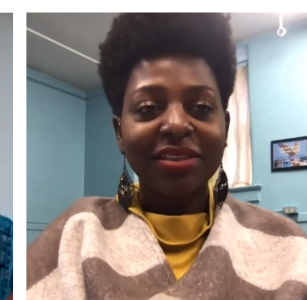
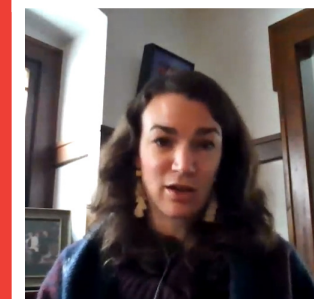
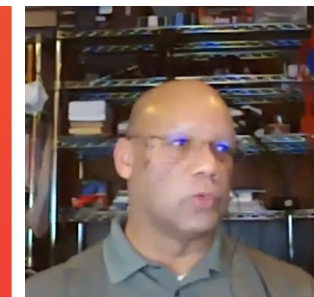
- Amplify knowledge of how race, class, environment, and health intersect to shape—and be shaped by—design and development decisions.
- Connect environmental justice initiatives across the Midwest.
- Foster partnerships between designers and the communities who are most exposed to the effects of the climate crisis.

With an average attendance of 120 people per session, the panels were well-attended and insightful. Though not easy to summarize, one thing that stuck with us was the need for connection.



Our struggles are connected, we should be too.

We were excited to see organizations working on the same issues in different cities share winning strategies and to see others begin to plan future collaborations. As architects, we constantly work between disparate groups, drawing on the expertise of others, so we began to see a role for ourselves in helping to foster connections that can bolster the efforts of those organizations who are already doing environmental justice work.



WATERSHED

[DIS] 2022: Watershed grew directly out of the Environmental Justice Symposium. Based in cities that are connected by the Ohio and Mississippi Rivers, water loomed large in those conversations. From stormwater runoff and flooding to sewer backups, our discussion often highlighted the power of water. It also highlighted how its behavior is shaped by human decisions—frequently, in ways that cause disproportionate harm to low-income communities and communities of color.

Driven by the belief that knowledge without action is not enough, [DIS] 2022 sought to translate what we learned in the symposium into actionable projects.

We had some ideas of what form this might take, but we wanted to ensure that our work was rooted in the ongoing agendas and priorities of existing organizations. So, we reached back out to our partners from the previous year and discussed some initiatives that might benefit from our design and communication skills.

Those conversations coalesced around a handful of projects focused on the closely related issues of watershed and tree canopy.



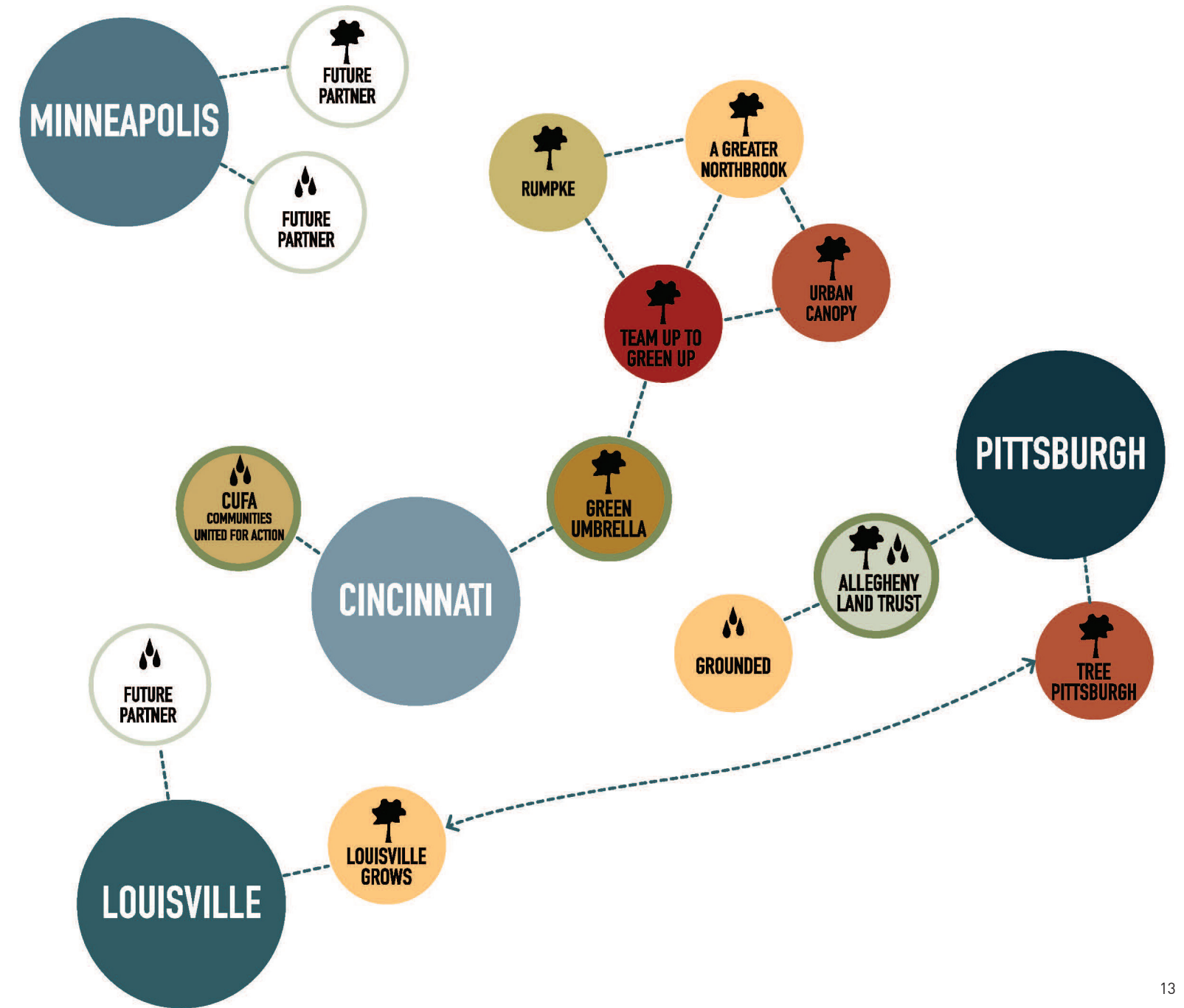
WATERSHED PROJECTS

- **Partnerships**
- **Green Infrastructure Guide**
with Communities United For Action
- **Community Engagement Materials**
with Grounded Strategies
- **Vision for Parking Lot as Community Park**
with a Greater Northbrook Community

PARTNERSHIPS

We cast a wide net before identifying the projects that would structure our (DIS) 2022 Watershed effort. Starting with partners from our Environmental Justice Symposium, we conducted a series of conversations to figure out how we could help establish environmental justice initiatives. Some projects were formed directly from symposium partners (like CUFA), others emerged from the connections that our established partners—like Green Umbrella and Allegheny Land Trust—helped us make.

This was a great opportunity to foster new connections while deepening the relationships established in 2021.



GREEN INFRASTRUCTURE GUIDE

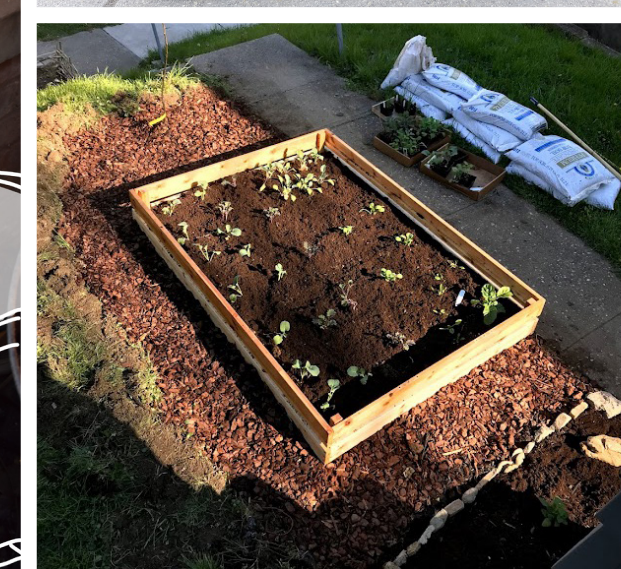
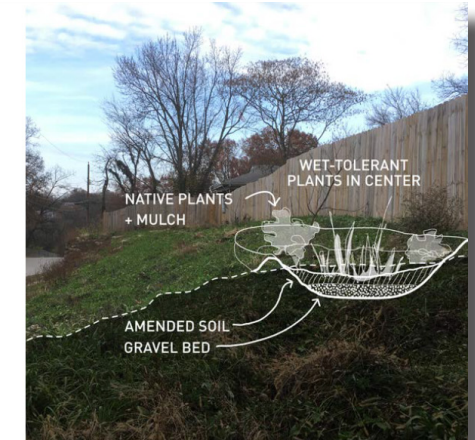
WITH COMMUNITIES UNITED FOR ACTION (CUFA)

WHO

Dedicated to organizing low-income residents and people of color to address racism, classicism, and environmental degradation, CUFA is piloting a series of stormwater management interventions. Their purpose is to protect people’s homes and reduce strain on Cincinnati’s Combined Sewer Overflow (CSO) system, which, when overrun, spills sewage into waterways and residents’ basements.

WHY

Using smaller, green interventions—like bioswales and raingardens, rain barrels and permeable pavement—CUFA hopes to show that the city’s and county’s water management system would do well to invest in dispersed, grassroots solutions to improve its storm water runoff mitigation efforts. The (DIS) Committee worked with CUFA to develop a “Green Infrastructure Guide” for staff and volunteers to use to help program participants select water mitigation strategies to help them address stormwater issues on their properties.



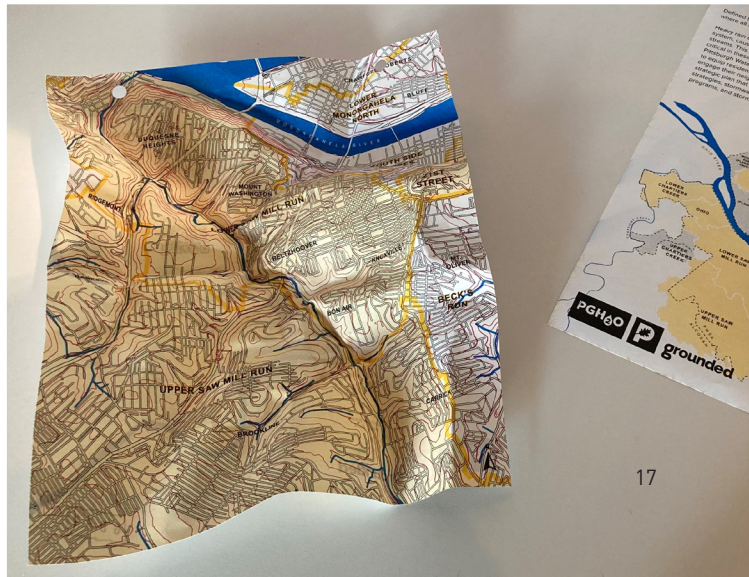
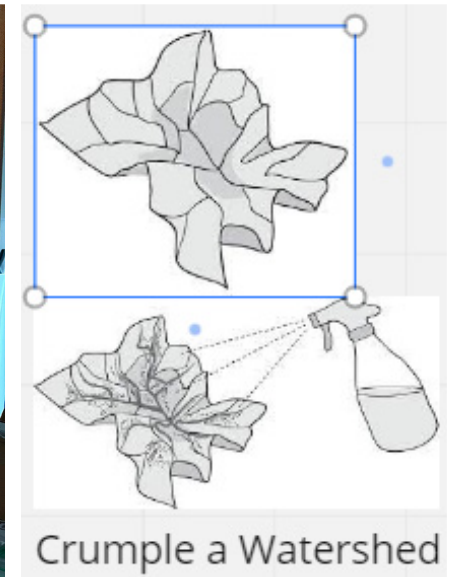
COMMUNITY ENGAGEMENT MATERIALS WITH GROUNDED STRATEGIES

WHO

Dedicated to change that grows from the community itself, Grounded Strategies helps neighbors “improve the social, economic, and environmental health of their communities by building capacity to reclaim vacant and underutilized land.”

WHY

As the Pittsburgh Water & Sewer Authority (PWSA) developed their Stormwater Strategic Plan, a dedicated team of community members—Grounded Ambassadors—were hired to help their neighbors understand and shape PWSA’s stormwater management priorities. The (DIS) Committee worked with this team to identify and develop materials that would help them with community engagement.



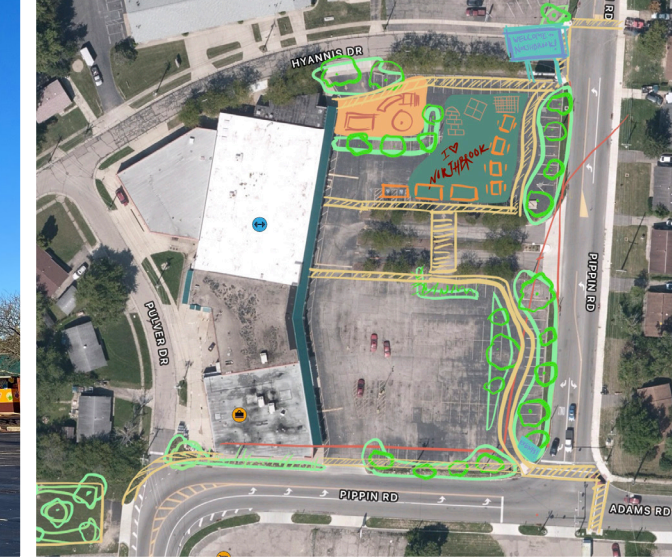
VISION FOR PARKING LOT AS COMMUNITY PARK WITH A GREATER NORTHBROOK COMMUNITY

WHO

When we shared our idea of doing a community-based environmental justice project with our 2021 partner, Green Umbrella, they connected us to Team Up to Green Up (an organization dedicated to growing the tree canopy in Cincinnati's neighborhood, Colerain Township). They, in turn, connected us to A Greater Northbrook Community (AGNC) who sought to expand the tree canopy across an underused parking lot in their neighborhood.

WHY

AGNC wanted to transform an underutilized, strip mall parking lot—the kind that dot our neighborhoods—into a gathering space that expands the local tree canopy, showcases community pride, and beautifies the neighborhood. The (DIS) Committee hosted a design charrette that identified goals and flexible, low-cost design strategies for achieving them. A notable strategy that emerged included the development of container gardens, which would repurpose “dumpsters” from a local sanitation company, Rumpke, to extend the neighborhood's tree canopy.



EXHIBITS

- **Research + Data Visualization**
- **The Minneapolis Retrospective + Premiere**
Minneapolis
- **Exhibit + Panel Discussion**
Louisville
- **First Full Premiere**
Pittsburgh
- **Happy Hour + Happy C.A.M.P.ers**
Cincinnati



RESEARCH + DATA VISUALIZATION

DATA

We are awash in information. So much so, that it can be hard to find one's bearings—hard to know which data points are most important and what they mean in terms of lived experience. Along with supporting gallery displays that featured our partnerships, we developed a set of Hand-Crafted, Augmented Reality (AR) Maps to help people understand the implications of climate data where they live.

ARTIFACT

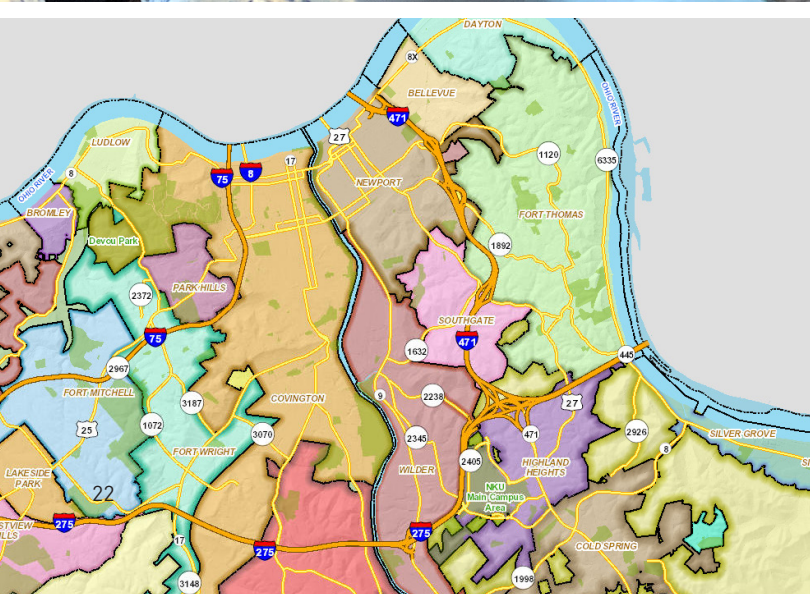
Custom patchwork rugs trace neighborhood boundaries of Cincinnati, Louisville, Minneapolis, and Pittsburgh. They then draw on publicly available information to create an AR overlay that illustrates the relationship between key demographic and environmental information: median income, average temperature, percentage of impervious surface, and tree canopy coverage.

PARTNER

The rugs were made by Sophie Dannin, a textile artist and designer, who is based in St. Louis, Missouri. We shared source images of the maps with Sophie, who then sourced deadstock materials and carpet remnants to produce them.

PURPOSE

At a glance, the Map + AR Overlay illustrates the inequities in our built environment. They reveal who in our cities benefit from the cooling and absorbent qualities of tree coverage and who is subjected to intensified summer heat and flooding associated with impervious surfaces (parking lots, roads, etc.)



THE MINNEAPOLIS RETROSPECTIVE + PREMIERE

MINNEAPOLIS, THE HISTORIC GRAIN EXCHANGE

The Minneapolis exhibit was not only the first of the 2022 series of gallery openings, but it was the first (DIS) Exhibit in our Minneapolis office. As a result, it not only acted as a beta test for the exhibit—the first live deployment of a single city map/rug with AR overlay—but it also provided a retrospective to introduce (DIS) to our new community.

At times we struggled to stabilize the AR overlay, which frequently drifted off the corresponding map, but with some troubleshooting we were able to demonstrate the concept. The event was well-attended, and our visitors were engaged and curious about this year's (DIS) and past events. A highlight for many who attended the show was an AR re-creation of the Parallax Pavilion from (DIS) 2018.

EXHIBIT + PANEL DISCUSSION

LOUISVILLE, KMAC MUSEUM

A fuller version of the Watershed Exhibit showed at KMAC in Louisville. This included all the handcrafted, AR map-rugs (Louisville, Minneapolis, Pittsburgh, and Cincinnati) and additional materials that we had developed for our partners (such as Grounded's Tear-able Watershed Maps and CUFA's Green Infrastructure Guide). It also included a spirited panel discussion, featuring:



JULIE DONNA
Sustainability Coordinator,
Louisville Metro Government



KED STANFIELD
Executive Director,
Louisville Grows

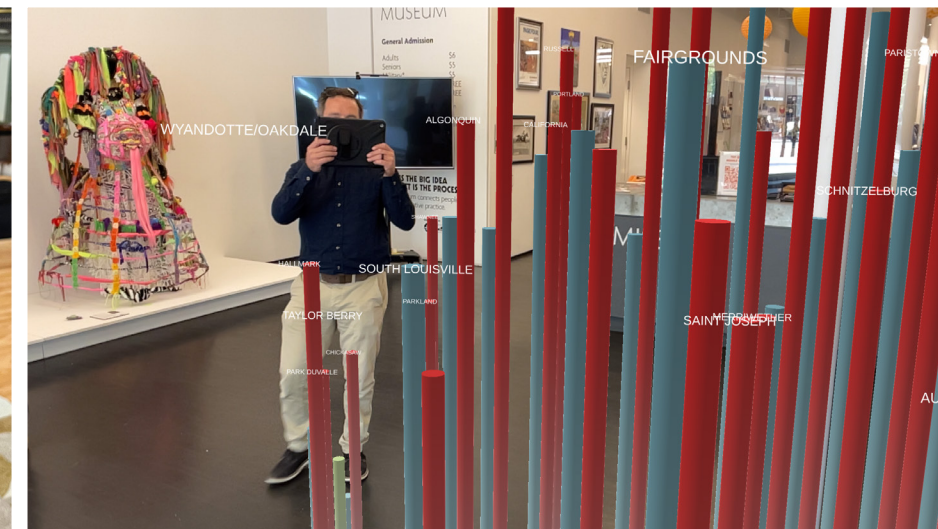
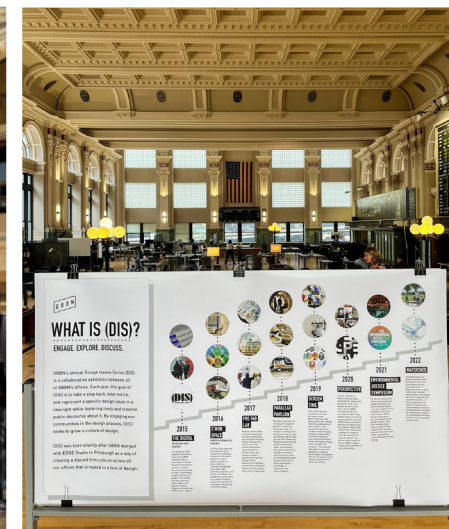


MONICA UNSELD
PhD, MPH, Founder & Executive
Director, Until Justice Data Partners



TIFFANY BROYLES YOST
Director of Sustainability
& Resilience, GBBN
(Moderator)

The (DIS) Committee was not able to identify a specific project to assist on in Louisville, so we were happy to connect with these great organizations through the event.



FIRST FULL PREMIERE

PITTSBURGH, GBBN EDGE GALLERY

We hosted a full version of the exhibition in our Pittsburgh office, during the Unblurred Art Crawl on Penn Avenue. Though we had worked out many of the kinks with the AR for our Louisville exhibit, we were sent scrambling to rebuild the AR model when our design software (Rhino) discontinued support for a critical plugin, we had been using the day before the Pittsburgh exhibit.

Fortunately, we were able to restore the AR model in time, so the AR city rugs worked smoothly. The exhibit also featured additional materials that documented the work with our community partners, including the items from Louisville, video interviews with our partners at Grounded Strategies, and "Know Your Watershed," an interactive story map about Pittsburgh's watershed.

HAPPY HOUR + HAPPY C.A.M.P.(ERS)

CINCINNATI, GBBN CAFÉ

Occurring only two days after the Pittsburgh showing, the only major change to the Watershed Exhibit in Cincinnati was that it was able to occupy a larger space in the café in the Cincinnati office. Its presentation also benefited from the 16 x 9-foot screen along the café wall, which was paired with a tablet, so it could share a view of the maps with the AR overlay.

Over the course of four hours, the opening received some highly engaged visitors. It was pandemonium in the best possible way: There were children rolling across the rugs, community partners discussing their projects with other visitors, co-ops stopping by with their families, visitors from local arts institutions, students from University of Cincinnati's College of Design, Architecture, Art, and Planning, and a lot of conversations and connections to follow up on.

We were also able to leave part of the exhibit up for several weeks, so that junior high and high school students with C.A.M.P. (Cincinnati Architectural Mentoring Program) could interact with the installation and learn about the research informing it.



Inequality is so engrained
in our built environment
that it can be predictably
mapped out.

This is not a groundbreaking insight. But it was illuminating to see predictable patterns emerge in each of our city maps about where environmental harms and benefits are concentrated—who is exposed to the heat island effect, overland flooding, sewer backups, etc.

Environmental Justice
solutions need to be
rooted in listening.

During the panel discussion in Louisville, Dr. Monica Unseld of Until Justice Data Partners put it well. “You have to believe that lived experience is data, the community speaks for itself, and the community is the experts... so never go into the community and say, ‘we’ve already got this figured out.’” It’s easy to bring preconceived ideas to a design project, but we do our best work when we listen first.

Community engagement
is challenging, but
essential.

At times, we were met with skepticism. Other times, it was difficult to reconcile internal processes with the pace of organizations that rely on volunteers or a small staff. Internally, (DIS) assumes a set schedule, but it can be hard to align that with the priorities and capacity of outside partners. Ideally, a more organic partnership would help to overcome this issue.

Information is
still missing.

The map is a great visualization, but some more important information, like race, is missing. Our sense is that visitors to each city’s exhibit had the knowledge to fill this in, but the addition of this data would make the overall discussion richer.

WORKING TOWARDS A “WATERSHED” MOMENT

Examining these issues, we hope to contribute to a “watershed” moment in the design industry. In recognizing design’s historic role in providing unequal environments, we also seek to recognize our responsibility to strive for environmental justice in all our work.

WHAT IS (DIS)?

GBBN's annual Design Issues Series (DIS) is a collaborative exhibition that involves all of GBBN's US offices and members of the communities where we work. Each year, our goal is to step back, take notice, and represent a specific topic in a new light while fostering lively, public discourse. By engaging our communities in the design process, (DIS) seeks to grow a culture of design.



WATCH MORE HERE

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