

Advancing One Water Through Arts and Culture: A Blueprint for Action



Preface

The urgent and multifaceted nature of our water challenges calls for new ways of thinking, acting, and investing. Water leaders across the nation are embracing the One Water approach—managing water resources in a more integrated, inclusive, and sustainable manner in order to secure a bright and prosperous future for our children, communities, and country.

ArtPlace America and the US Water Alliance believe there is tremendous opportunity to utilize arts and culture strategies to advance One Water. As creative thinkers and doers, artists can be powerful partners for water leaders seeking to reimagine traditional approaches to water planning and management and connect with communities in new ways.

Our partnership has been a collaboration in the finest sense of the word. Together we learned about each other's sectors, challenged assumptions, and have developed a powerful framework for how to use arts and culture to forge One Water progress. We are so inspired by the creative ways that utilities, environmental groups, public agencies, and other water practitioners are collaborating with artists and cultural leaders. But it is only the beginning.

We hope this blueprint sparks a new era of partnership between arts, cultural, and water leaders in communities across the country. To do so, we need to invest in building a robust field of practice—one that cultivates the commitment and capacity of the water sector and arts and culture leaders to work in tandem.



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Introduction

No matter who we are, where we live, or what we do, water is essential to our lives. It is life's most precious resource, an indispensable ingredient for prosperity, progress, and well-being. Water challenges in the United States are vast and mounting—communities are suffering from poor water quality, drought, flooding, and more. Our water and wastewater infrastructure is aging and in urgent need of replacement and renewal. Our water systems are further stressed by increasingly unpredictable weather, sea level rise, and shifting populations.

The complex water challenges we face today cannot be solved solely by the approaches we have used in the past. Water leaders—utility managers, public officials, farmers, river keepers, business leaders, manufacturers, community leaders, philanthropy, and others—recognize that business as usual will not get us to a sustainable water future. Visionary water leaders are working to shift the paradigm of how water is viewed, valued, and managed. They are taking a One Water approach, elevating water as a national priority, inspiring our collective imagination, and activating new solutions.

Water leaders are increasingly turning to artists and cultural leaders to help bring visibility to water issues, create more inclusive and imaginative planning processes, and leverage infrastructure investments to provide additional benefits to the communities they serve. At the same time, many artists and cultural leaders have become increasingly aware of and engaged in the water issues facing their communities. There is tremendous opportunity to utilize arts and culture strategies to advance sustainable, integrated, and inclusive management of our nation's water resources. As creative thinkers and doers, artists can be powerful partners to water leaders seeking to reimagine traditional approaches to water planning and management, and connect with communities in new ways.

This report aims to help water leaders envision the various ways that arts and culture can advance One Water goals, and how they can most effectively partner with artists and cultural leaders. In addition to serving water leaders, we hope this document will provide artists and cultural leaders with insights on the priorities of the water sector and reveal synergies. By establishing a shared framework, we hope to enable increased collaboration between the water and arts sectors.

The report is organized in the following manner:

- **Our Current Water Landscape** provides a brief overview of the complex water-related challenges that face our communities;
- **A New Paradigm for Water: The One Water Approach** describes how the water sector is embracing a more innovative, integrated, and inclusive approach to water management;
- **Opportunities at the Intersection of Water, Arts, and Culture** outlines seven ways that arts and culture can advance One Water goals;
- **The Path Forward: Building Cross-Sector Capacity for Collaboration** offers recommendations for how we can seed and spread collaborations between arts, culture, and water leaders; and
- **Art in Action** presents eight case studies that demonstrate how arts and culture strategies are driving positive water-related outcomes in communities across the country.

Our Current Water Landscape

With numerous converging and compounding challenges, our nation's water systems are at great risk—and this threatens our communities. From too much or too little water, to poor water quality, to aging infrastructure, to the impacts of a changing climate, to affordability concerns—the water challenges we face today are vast. These issues have broad ecological, social, and economic effects. As our nation faces the interconnected water challenges outlined below, there is a unique opportunity to forge innovative solutions. The report to follow shares how arts and culture can help address some of these pressing water challenges.

Water quantity: too much, too little

While water scarcity and flooding seem to be at opposite ends of the spectrum, they are both the result of changing global precipitation patterns and can have equally devastating impacts. Communities are confronting increased frequency and intensity of floods due to rising sea levels, extreme weather, and inadequate infrastructure. In areas with combined sewer systems, untreated wastewater can overflow into streets, parks, and water bodies, and even back up into people's homes during intense storms. Conversely, many western states are experiencing extreme and prolonged droughts. With these growing challenges, how can water leaders implement innovative approaches to stretching water supplies or minimizing flooding impacts? How can they spark collective action from customers that helps to sustainably manage water supplies?

Water quality

Although the health of our nation's waters has improved significantly over the past 40 years, poor water quality still plagues communities across the country: in Toledo, OH, an algal bloom in Lake Erie affected half of a million people, and in Flint, MI, lead-contaminated water endangered 90,000 people.¹ Unfortunately, lead contamination is not

unique to Flint—up to 10 million homes, primarily in the Midwest and Northeast, are in areas with lead pipes.² The US Environmental Protection Agency (EPA) and state governments have identified nearly 39,000 bodies of water nationwide that do not meet federal or state standards for water quality due to pollution.³ Rapid urbanization and changes in agricultural practices have also contributed to increased pollution in our waterways from sediments, nutrients, heavy metals, and pharmaceuticals, harming both aquatic environments and drinking water supplies for many communities. Utilities need creative solutions to address mounting water quality challenges in the face of legal and financing constraints. How can utilities collaborate with citizen science efforts to reimagine the way critical data is provided to and from customers? How can we communicate complex and interdependent water quality challenges to the general public?

Aging and inadequate infrastructure

Much of our essential water infrastructure—the pipes, pumps, reservoirs, and treatment plants working 24/7 to deliver clean drinking water and remove and treat wastewater—was built more than 100 years ago. Our nation's water and wastewater systems have long outlived their intended lifespan and are in urgent need of investment. The American Society of Civil Engineers gave our drinking water and wastewater infrastructure a “D” grade in their 2017 Infrastructure Report Card.⁴ In addition, these systems were built for communities with drastically different population sizes, economies, and climates than exist today. According to the EPA, our nation needs to invest \$300 billion in wastewater infrastructure⁵ and \$335 billion in drinking water infrastructure over the next 20 years.⁶ The cost of inaction is staggering—for every day of water service disruption in America, US businesses lose \$43.5 billion in sales.⁷ How can we change the way the public views, values, and interacts with water? How can we help people understand the invisible challenges impacting their water systems and build the support for needed investments?

A changing climate

Changing climate patterns are putting additional stress on our water resources and water infrastructure. In 2016, the World Bank released a report that illustrated how the impacts of climate change will primarily be felt through the changing water cycle, with large and uneven consequences on our food, energy, urban, and environmental systems.⁸ Over the past several years, we've seen the impacts of an unpredictable and changing climate—from increasingly intense hurricanes, winter storms, and flooding along the Atlantic and Gulf coasts, to drought and wildfires in the West. The US Department of Defense reported that 55 percent of Puerto Rico's population had no access to safe drinking water in the weeks after Hurricane Maria hit;⁹ the storm also destroyed 80 percent of the island's agricultural industry.¹⁰ While these kinds of events may make the reality of climate change more tangible, it is still difficult for many communities to fully grasp the magnitude and severity of the changes yet to come. This makes it challenging for local leaders to garner the public and political support they need to plan and prepare for a radically different future. Across the country, communities of all sizes need tools and strategies to better understand the specific climate threats they are currently facing and build their capacity for resilience. How do we plan and create flexible water systems that can adapt to a changing climate? What role can water infrastructure play in strengthening community identity and resilience in the face of increased environmental pressures?

Affordability

While water and wastewater service is generally affordable for most Americans, water and wastewater rates are increasing and pose a financial burden for lower and fixed income individuals. Keeping rates affordable for economically disadvantaged people is a growing problem in both urban and rural communities. Federal funding for water infrastructure has steadily declined over the past several decades, even as the need for investment in new infrastructure has increased, leaving local utilities and ratepayers to shoulder the burden of improvement costs. As infrastructure continues to age, utilities will need to raise rates to keep pace with repair needs. At a time when economic inequality is at an all-time high, water leaders are struggling to size, sequence, and scale infrastructure improvements and simultaneously maintain affordable service for their most vulnerable populations. How can we create more affordable and equitable water and wastewater services? How can we create opportunities for communities to participate and engage in the water-related decisions that affect their lives?

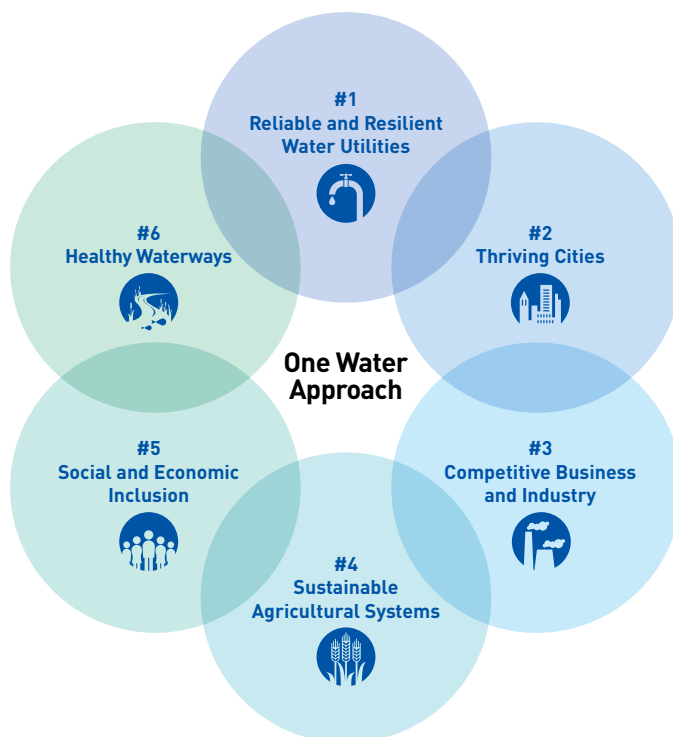
A New Paradigm for Water: The One Water Approach

The urgent and multifaceted nature of our water challenges calls for new ways of thinking, acting, and investing. Water leaders across the nation recognize the need to manage water resources in a more integrated, inclusive, and sustainable manner in order to secure a bright and prosperous future for our children, communities, and country. At the US Water Alliance, we call this approach One Water.

One Water is a transformative approach to how we view, value, and manage water on multiple scales—from local communities to the national level. A One Water approach can take many different forms, yet has some unifying characteristics. The hallmarks of One Water are:

- **A mindset that all water has value**—from the water resources in our ecosystems to our drinking water, wastewater, and stormwater—and must be managed carefully to maximize its benefits.
- **A focus on achieving multiple benefits**, meaning that our water-related investments can and should provide economic, environmental, and social returns to communities.
- Approaching decisions with **a systems mindset**, one that considers the full life cycle of water and larger infrastructure systems.
- Utilizing **watershed-scale thinking and action**, which fosters regional collaboration and respects and responds to the natural ecosystem, geology, hydrology, and social fabric of an area.
- Relying on **cross-sector partnerships** and the **inclusion and engagement of all**, recognizing that real progress will only be made when all members of the community have a seat at the table.

Innovative work, informed by the One Water framework, is happening across the country and inspiring a sector-wide shift in how we manage water. As we plan for our water future, we need bold and creative approaches that can help us achieve our collective One Water goals.



Opportunities at the Intersection of Water, Arts, and Culture

Big challenges require bold solutions. Leaders across many businesses and social sectors—water, public health, housing, transportation, and economic development—are finding that the tough problems they face today require different skills and approaches than the ones they have relied on in the past.¹¹ Like the challenges facing the water sector, many of the issues facing these other sectors do not have simple technical fixes—they require transforming multiple large-scale systems in the face of many unknowns, while simultaneously shifting social norms, cultural values, and consumer behaviors.

This is no small task, and smart leaders are seeking new partners, methodologies, ideas, and approaches. Many are finding that working with artists and integrating cultural strategies into their work can help unlock new ways of thinking and catalyze profound progress on some of their thorniest issues.¹² This requires understanding the roles artists play in public life more broadly, beyond formal presentations in studios and fine arts venues. There is a growing number of artists who are applying their creative skills and energies to engage their communities, influence civic outcomes, and improve public space. In addition to artistic skill sets, like storytelling, sculpture building, or performance, many artists bring effective and creative approaches to complex problem solving, group facilitation, community organizing, conflict resolution, and consensus building.¹³

Just as arts and culture strategies have been catalysts in other areas of community development, they can also be a transformative element in helping water leaders achieve their One Water goals.¹⁴ Artistic processes can reveal hidden connections, interdependencies, and relationships, which can inform thinking and planning with a **systems mindset**. By holistically considering the economic, environmental, and social needs of a community, artists can help projects **achieve multiple benefits** and minimize negative impacts. Artists can play a valuable role in **watershed-scale thinking and action** by serving as liaisons between different stakeholder groups or helping people see familiar things from new perspectives. They can bridge diverse interests and

needs to cultivate **cross-sector partnerships** that work toward common goals. Artists can create compelling participatory experiences to help communities recognize that **all water has value**. Artistic processes and methods that prioritize **inclusion and engagement of all** community members can help build community connections, trust, and resilience. All of these skills are assets in tackling the complicated, interconnected water challenges of today and enabling equitable water management.

The good news is that there is already impressive work happening at the intersection of art, culture, and water that utility leaders can look to for inspiration. In fact, the integration of art and water infrastructure has a long legacy. For centuries, art has been used to adorn and celebrate water resources and engineering marvels, and to help the public understand their importance.

Creative placemaking: A growing field of practice

Across many sectors, artists are helping engineers, planners, and public officials think differently and imagine solutions that meet a broad range of community needs and spark and sustain public interest.

Creative placemaking is a term used to describe place-based community planning and development projects in which art or artists play an intentional and integrated role. Creative placemaking can involve any art form—design, folk arts, visual arts, theater, music, literature, film and media, culinary arts, dance, as well as things like storytelling, spiritual rituals, craft traditions, games, and other creative practices.

To create solutions that meet locally-defined needs and priorities, these efforts must be locally-informed and human-centered. They tend to take place outside of formal art institutions, involving artists who work in partnership with community and/or civic partners.

When the **Philadelphia Water Department** constructed the Fairmount Water Works in 1851 as the city's main pumping and filtration station, elaborately designed water fountains and statues were incorporated to demonstrate the abundance and the power of water that was fueling the city's growth. This use of the arts to communicate and educate continues today, with programs in many US cities and approximately 25 states that allocate a certain percentage of public works and infrastructure funds to public art projects.¹⁵ In Philadelphia, the Water Department partners with groups like **Mural Arts** and other local artists and designers to create murals, street art, design competitions, and other initiatives that evoke the value of water at various green stormwater infrastructure sites and other capital project locations.

While beautiful pieces of art in public spaces certainly have a positive impact on communities, recent research in the growing field of creative placemaking demonstrates that the potential role artists and cultural strategies can play in transforming places and improving communities is far greater.¹⁶ A number of water utilities and organizations are already exploring this frontier, partnering with artists on community engagement, planning and design, and building and construction processes, as well as engaging them to create beautiful art. This blueprint outlines arts and culture strategies that are helping water leaders engage the public and transform places. The following seven strategies have demonstrated the ability to achieve positive outcomes for both utilities and community members. Integrating arts and cultural strategies can:

1. **Help people understand and connect to water;**
2. **Inform water resource planning with new perspectives;**
3. **Engage communities in participatory processes;**
4. **Build bridges across different sectors and stakeholder groups;**
5. **Mitigate the disruptive effect of construction projects;**
6. **Integrate water infrastructure into the fabric of a community; and**
7. **Support community activism.**

Research methodology

This work is based on foundational research on the role of creative placemaking in achieving outcomes in other sectors. In particular, the strategies presented here build upon the report *Farther, Faster, Together: How Arts and Culture Can Accelerate Environmental Progress*, written by Helicon Collaborative and commissioned by ArtPlace America, and a related working group in which the US Water Alliance participated in May 2017. To apply this transformative work to the water sector, the US Water Alliance conducted a national scan to identify effective arts and culture approaches that can propel water priorities forward. The components of this research included:

- Over 50 stakeholder interviews, including artists, cultural leaders, water and wastewater utilities, watershed agencies, elected officials, and community organizations;
- Comprehensive literature review;
- Secondary source research on over 100 projects; and
- Consultative sessions with an advisory group of 22 leaders, including artists, cultural leaders, and representatives from utilities and water-related organizations.

1.

Help people understand and connect to water

Water utilities provide a silent service. The management of our water infrastructure and resources is often invisible to most Americans, unless something goes wrong. Our water and wastewater systems are highly technical and complex. Historically, the ways that water agencies interacted with the public primarily consisted of issuing emergency notifications, generating the monthly water bill, and undertaking construction projects that can cause neighborhood disruptions. Today, water utilities increasingly realize that the “out of sight, out of mind” nature of their operations hinders their ability to deliver on their core mandate of providing reliable water service. They need deeper and more sustained interactions with the public, especially in light of the fact that revenue generated from water bills is the primary source of support for water infrastructure.

Research shows that experiences we have an emotional response to—because they are novel, interesting, or pleasurable—are the things that we most remember and which have the most potential to influence how we think and behave.¹⁷ Artistic experiences often evoke a sensory and emotional response and have the potential to help people see, hear, feel, and even taste a unique water challenge, source, or process that would have otherwise been intangible. This can leave a resonant impression that changes how people perceive or feel about water and water systems.

For example, in 2000, the **City of Santa Monica** and the **City of Los Angeles** built a facility to treat and recycle urban runoff and eliminate pollution in the Santa Monica Bay. Typically, such a facility would have been hidden behind concrete walls. Instead, the developers engaged artist **Richard Turner** to help them design the facility in a manner that maximized the public experience. The facility sits right next to the Santa Monica Pier, the heart of a prominent tourist destination and vibrant community. The team worked collaboratively to ensure the facility’s design complemented and mirrored the bright, lively backdrop. The artist encouraged the team to showcase, rather than hide, the water filtration equipment itself and designed a route through the facility that allows

visitors to follow the flow of the water through the system. People can see the process in action in five places along the way, helping generate understanding and appreciation of the work of the facility. By working with an artist to inform the design of the structure, the **Santa Monica Urban Runoff Recycling Facility (SMURRF)** helps community members understand the important role this treatment facility plays in ensuring access to clean and diverse water supplies in Southern California, where drought is the new normal.

Art experiences can provide a human-centered way for people to understand highly technical or scientific processes and systems. For example, the **Metropolitan Water Reclamation District of Greater Chicago (MWRD)** operates the largest phosphorus recovery facility in the world, with the capacity to remove 1,500 tons of phosphorus from wastewater annually and convert it into a slow-release fertilizer. While accomplishing this feat was a game changer for regional water quality, the MWRD still needed to find an effective way to explain the value of this highly technical process to the public. Realizing the need to spark curiosity and engagement rather than just provide people with more data, in 2015 the MWRD partnered with a group of artists who created an interactive game using augmented reality to help the public understand the process of phosphorus recovery. The game helped build awareness around a critical water quality issue, highlight an innovative new solution, and share opportunities for engaging the public.

These examples show that arts and culture can help foster greater understanding and connection to water systems by creating human-centered experiences that make abstract, complex processes more accessible, engaging, and concrete. The more people understand, see, and interact with the water systems in their community, the more likely they are to value and appreciate these systems. Additionally, increasing understanding of what goes into water management can help encourage desired water-related behavior, such as drinking tap water instead of bottled water, conserving water, or supporting infrastructure investments.

2. Inform water resource planning with new perspectives

The way we experience water is changing. Stronger and more frequent storms increasingly overwhelm stormwater systems and flood neighborhoods. Rising temperatures are accelerating snowmelt and reducing water supplies. Rising sea levels can compromise water infrastructure and the quality of groundwater supplies in low-lying areas. At the same time, water use is also changing. Population growth and new development are increasing demands on water sources in urban and suburban areas. On the other hand, a growing market for “green buildings” and sustainability features is contributing to conservation. Today, water leaders are grappling with this “new normal” of unpredictability and evolving conditions. In response, many are seeking new ways of living *with* water, rather than trying to control and contain it. This requires redesigning infrastructure to be more flexible and adaptive to reflect these changes in our environment and our communities. These shifts are driving demand in the water sector for new ideas and approaches to water planning.

As engineers, planners, and experts redesign our nation’s water systems to meet the challenges of the future, artists bring unique perspectives and methods that can unlock innovation in infrastructure design, climate mitigation and adaptation strategies, community engagement, and more. While engineers, planners, and other water experts have proven strategies for addressing particular problems, these approaches don’t always match the complexity and uncertainty of the water challenges we face today.

Artists, and the creative methodologies they employ, can help engineers and planners approach problem-solving in new ways and envision different possibilities for the water systems of the future. Artists’ keen observational methods can help engineers, planners, and other experts see things that they might not have otherwise seen—about the problems themselves and the possible solutions. This means that artists often take risks that utilities or other organizations are not accustomed to taking (or may be prohibited from taking as a result of legal and regulatory mandates), which can lead to profound realizations, unexpected alliances, and innovative outcomes. In this

way, integrating artists and artistic processes into water planning can help water leaders identify opportunities to stretch resources, achieve multiple benefits, and find unexpected new solutions.

For example, in West Palm Beach, FL, artist **Michael Singer** and his team worked with the **Solid Waste Authority (SWA) of Palm Beach County** from 2009 to 2015 as a part of an integrated design team for its new waste-to-energy facility. Once opened, the innovative facility would produce electricity from waste, reducing the amount of waste diverted to landfills by 90 percent and powering 44,000 homes without requiring new fossil fuels. The problem was that operating the facility would require a lot of water, and because water was scarce in South Florida, it was going to be both financially and environmentally unsustainable to purchase that amount of water from the city. The Singer Studio team suggested a series of ways to both reduce the facility’s use of water and find other, cheaper sources of water, including the construction of an onsite rainwater harvesting system that has the capacity to capture and store two million gallons of rainwater. Operating as part of a larger system, the rainwater harvesting system has eliminated the facility’s need to purchase water entirely, conserving the city’s potable water as well as generating significant long-term cost savings for the SWA that will more than pay off over time. The artistic team was involved throughout the construction process and designed the environmental, aesthetic, and educational components for the \$672 million facility, which also included programming at the onsite visitor center. The involvement of an artist throughout all stages of the process allowed SWA to think outside of the conventional approaches to water usage and arrive at a sustainable, integrated solution that pays for itself over time and delivers multiple benefits for the community.

As partners in the planning process, artists can help engineers and planners think differently, not just about *what* to build, but *how* to approach problem-solving itself. Fully integrating artists into planning and design processes as equal collaborators—rather than having the arts component discrete and compartmentalized—opens up the possibility for creative approaches to inform all elements and dimensions of a project, potentially leading to out-of-the-box ideas that can save money, serve environmental goals, and benefit communities in a range of ways.

3. Engage communities in participatory processes

As water leaders plan and design public infrastructure improvements, considering community needs is essential to project success. Traditionally, public engagement efforts related to water and wastewater services have been top-down, where government officials inform and educate the community on an important decision without engaging them in shaping the outcome. In some cases, the public engagement process takes place after most design decisions have already been made, leaving utilities with little flexibility to integrate new ideas that may emerge from community members' input. However, water leaders and other public officials are increasingly realizing that creating opportunities for communities to participate in decision-making processes on the front end is not only more inclusive, it is essential to ensuring infrastructure is designed in a way that actually meets community needs. Meaningful public participation in infrastructure planning also fosters greater support for and stewardship of the project from the public.

The City of St. Paul engages residents in city planning efforts through Pop Up Meeting, a collaboration with artist Amanda Lovelee and Public Art St. Paul. *Photo credit: Amanda Lovelee.*



Planners, elected officials, and community groups are increasingly working with artists to design processes that allow them to envision and co-create *with* the community, not just *for* it. Often, city-led public engagement meetings can feel formal or use technical language and diagrams that can be alienating to community members. Artists can help design and facilitate opportunities for community members to interact with water officials or developers on more equal footing and to share their ideas in ways that are more natural to them. Artists can help craft processes that are inclusive, fun, and creative so that community members want to participate and feel like they are not simply signing off on plans already made, but actually have a voice in the decisions that will impact their lives.

For example, the City of Saint Paul, MN wanted public participation in civic processes, but official public input meetings were not well-attended, or attracted only the regular, ardent residents from certain communities or demographic groups. In order to bring more—and more diverse—voices into civic processes, the city partnered with city artist **Amanda Lovelee** from **Public Art Saint Paul** in 2015 to create Pop Up Meeting. Using an artistically-remodeled city truck, Pop Up Meeting visits different parts of the city with Lovelee and a team of city officials, creating an easy and fun way for people to participate in city planning and development processes. Community members are invited to share their ideas through surveys, conversations, or written letters, and receive a locally-made popsicle from the truck in exchange. The mobility of the truck allows city officials to reach a broader range of community members and to interact with them in a novel and informal setting evoking much different feedback than a typical public meeting.¹⁸

Artists can also help guide communities through more sustained planning processes around particular water issues. For example, flooding is a significant, perennial problem in Fargo, ND. To mitigate this, stormwater basins occupy large swaths of land, fracturing public space and rendering it unusable. Beginning in 2009, ecological artist **Jackie Brookner** began working with the community to help it re-envision how the space occupied by stormwater basins might be used. As a result, **The Fargo Project** is an ongoing effort led by a team of local artists with participation of hundreds of residents, engineers, landscape architects, ecologists, city planners, and others to transform the basins, one by one, into beautiful public spaces that unify and celebrate Fargo's diverse

communities while revitalizing the natural ecology of the land. The design includes both culturally-appropriate and ecologically functional physical elements, such as sculpted landscapes, fountains and ponds, and a natural amphitheater, as well as educational and cultural programming to bring the community together.¹⁹

Engaging people in water-related planning not only ensures more participation but also activates communities to be stewards of their water infrastructure and water future. When water leaders partner with artists, they can design and implement more inclusive and sustainable projects.

Eagle Scouts work on building a pedestrian bridge that will connect the basin's east and west green sections at World Garden Commons. *Photo credit: Amu Productions for The Fargo Project.*



4. Build bridges across different sectors and stakeholder groups

Water sits at the nexus of energy, food and agriculture, housing, development, public health, transportation, and business. Water touches nearly every aspect of daily life, and water leaders often interact with a broad range of stakeholders from other sectors—many with different perspectives and sometimes with competing interests. Water leaders understand that their goal of sustainable water management is inextricably linked to the decisions and choices that others in a watershed are making—whether it's a conservation group, a large water-reliant business, a farmer, or a resident. For projects to succeed, water leaders need to coordinate across a range of stakeholders, including city agencies and services, businesses, and environmental and community groups. In a moment where collaboration and compromise are essential to achieving our water sustainability goals, strategies that break stakeholders out of hardened mind-sets and build human relationships are critical.

Artists can be valuable allies as water leaders seek to build bridges between different stakeholder groups who may have different languages, perspectives, and goals. In this sense, the fact that artists are “outsiders” to civic or environmental systems and processes can be an asset, allowing them to create more neutral contexts for finding common ground. In addition, arts-driven experiences can help people open up in ways that other professional settings do not, allowing them to broaden their perspective and see things from other points of view.

For example, **Water Bar & Public Studio** is an artist-run space fashioned as a bar or taproom dedicated to building cross-sector relationships around water. Since 2014, it has been inviting partners—including government officials, utility leaders, educators, business leaders, environmental advocates, artists, and community leaders—behind the bar to serve water to the public as “water tenders.” In this role, water tenders engage people in conversations about water and are encouraged to primarily listen. By listening, water leaders gain a more in-depth and relationship-based understanding of people's connection to water, what they need, and what assets and insights they might bring. In addition to the

general public, this setting also provides an opportunity for water tenders to interact and engage with other water leaders in the community with whom they may not typically work. Through informal conversations and personal storytelling, professional barriers are overcome, new relationships form, and unanticipated opportunities for authentic collaboration may emerge. This simple artistic approach puts relationship building at the center and creates a neutral way for stakeholders with different interests to come together and find common ground.

Artist-led processes can help people see the interconnectedness of systems and develop plans and projects that meet shared needs. These partnerships can be especially beneficial in preparing water sector leaders to work in culturally complex and sometimes contentious environments by cultivating common ground and creating opportunities to connect, form relationships, and see issues from multiple perspectives. Artists can be great facilitators, helping water leaders find alignment with other governmental, business, and community priorities. For example, an artist-led planning process may help resolve divergent viewpoints between water utilities, transportation agencies, local businesses, and residents on the best use of sidewalks and public rights-of-way.

Artist and Water Bar Collaborative Director Colin Kloecker teaches Greensboro Water Department employees to tend bar. *Photo credit: Elsewhere Museum.*



5. Mitigate the disruptive effect of construction projects

Building and repairing infrastructure assets can be disruptive to surrounding homes and businesses. Obstructive scaffolding, closed roads and sidewalks, and reduced parking can have detrimental effects on brick-and-mortar businesses, while noise, dust, detours, and utility service interruptions can impact quality of life for residents. For these reasons, residents and businesses can be resentful of major construction projects in their neighborhoods, regardless of the future benefits. It is not uncommon for business owners to oppose major infrastructure projects to avoid the short-term losses caused by construction, despite any long-term benefits.²⁰

Incorporating artists and art-driven approaches into the construction phase of water infrastructure projects can help mitigate disruptions and generate support. Arts-driven approaches can be valuable communication tools for water construction projects. While construction is taking place, artists can help translate or visualize the conceptual design and the work underway through renderings or interactive demonstrations. Artists can help the community see the vision for the project and understand the long-term benefits and assets that will result from the construction. Artists can also help mitigate the disruptive effects of the construction itself by creating arts and cultural activities or events where the work is taking place to bring the construction site to life or creating aesthetic interventions that hide or distract from it. Infusing arts and cultural activities into neighborhoods undergoing construction can help maintain community identity during a period of change and generate excitement among local residents and visitors about the finished product.

Like water infrastructure, large transportation projects are expensive and often have long construction timelines, which can make it hard to attract and sustain public support. Transportation agencies, public officials, community-based organizations, and advocates are enlisting the help of artists to engage community members early and often in the planning process, create tangible representations of what the site will look and feel like once it is completed, and develop community

activities that help mitigate unavoidable disruptions due to construction.²¹

For example, in 2014, the Twin Cities embarked on building a new rail line connecting the cities of Minneapolis and Saint Paul, MN. Local residents and businesses feared that the construction project would do irreparable damage to the economic and social fabric of the surrounding neighborhoods as a result of street and sidewalk closures, noise and dust, and heavy machinery. In response, **Springboard for the Arts**, an artist-centered community and economic development organization, the **Twin Cities Local Initiatives Support Coalition**, and the **City of Saint Paul** collaborated on the **Irrigate** project. The Irrigate project engaged 600 local artists to work with local businesses to program arts and cultural events, activities, and visual interventions in the neighborhoods surrounding the rail line during the three-year construction period. Prior to Irrigate, most of the media coverage of the project had been negative. After the artistic activations began, the narrative about the neighborhood and the construction itself shifted. Over the course of the project there were 51 million positive earned media impressions about the art projects that, along with other efforts, contributed to thriving businesses and a strong sense of community pride by the time the rail line opened.

Artistic interventions like these can help utilities minimize the disruptive nature of infrastructure projects on communities, and even make the construction itself a “net positive” for communities by generating excitement and activating spaces in a way that enhances community identity and social interactions.

As part of Springboard for the Arts’ Irrigate project, filmmaker Nick Clausen filmed the Iny Asian Dance Theater and projected the video onto the vacant Victoria Theater in Saint Paul, MN. *Photo credit: Laura Zabel.*



6. Integrate water infrastructure into the fabric of a community

Water utilities are embracing a fundamental shift in the way they do business and how they are situated within the communities they serve. They are stretching beyond their historic mandate to provide safe and reliable water and wastewater service, and are now considering their role in a broader community and economic development context. As anchor institutions, many water utilities recognize that they have a responsibility to support efforts to address pollution, clean up contaminated sites and waterways, promote green space, provide environmental education, create jobs and economic benefits, and support investments that facilitate healthy living. As utilities build and repair infrastructure, they are seeking to leverage their capital improvements to generate triple bottom line benefits that are good for the economy, good for communities, and good for the environment.

As utilities build, repair, or operate their infrastructure, there is an opportunity to intentionally use arts and culture strategies to integrate water infrastructure into the community. Water assets—treatment plants, pump stations, water towers, storm drains—can be beautifully integrated into local culture and illuminate our relationship to water through partnerships with artists and local residents. Artists can serve as cultural connectors when they are collaborating with scientists and engineers. Connecting water to the aesthetic and the culture of a place can change a community’s entire relationship to water, the infrastructure responsible for delivering it, and the agencies that provide these services.

For example, while most Native American communities have deep connections to water in their traditional cultures, this is often not reflected in the way contemporary Native community water infrastructure is managed and designed. Launched in 2015, **Water is Life** is an ongoing program of the **National Tribal Water Center** in Alaska that works to revive the connection between culture and water management in tribal communities across the country. Traditional local artists work with community members to express what water means to them through culturally-relevant activities like storytelling, traditional games, and dance. Then, the artistic team helps the

community design water management assets that reflect the community's cultural identity; for example, by painting murals on water tanks. The project also elevates the role of water in community practices through storytelling events with elders on the cultural meaning of water tied to a spring cleanup along a river. Over time, the role of modern water resources and infrastructure has become seamlessly woven into the cultural practices and the identity of the community.

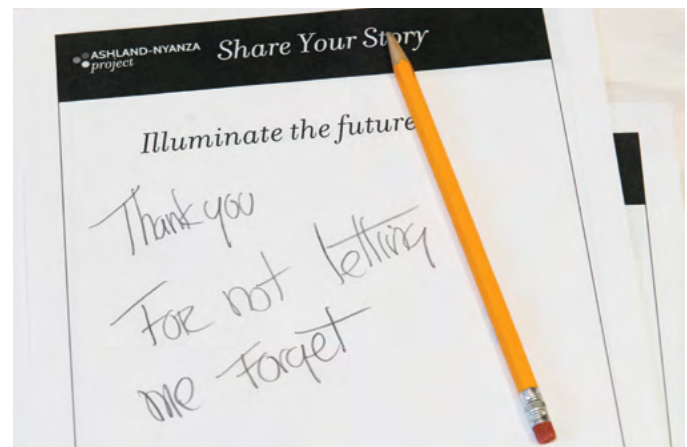
In addition, arts and culture strategies can be used to leverage infrastructure to create engaging, accessible community spaces. Green infrastructure for stormwater management is a promising example of how utilities can achieve water management goals and social and economic benefits at the same time. For example, the **Avalon Green Alleys Network Demonstration** project is a partnership forged in 2015 between the **Los Angeles Bureau of Sanitation** and **The Trust for Public Land** to transform 1.8 acres of vacant and abandoned alleys in Los Angeles' most disadvantaged communities into green community spaces that simultaneously manage stormwater. These communities lacked access to adequate green space and had substantial water quality issues due to polluted stormwater runoff and sewage overflow. The project team took a creative placemaking approach by working with artists and local residents to join community goals, such as community gathering space and public art, with water management goals, such as stormwater infiltration and drought-resilient gardens. To fully integrate the green infrastructure as community asset, the local community-based organization **Equipo Verde** works in the respective neighborhoods to create cultural and civic activities tied to the preservation of the alleys. They worked with the community to generate art elements to incorporate into the alley designs, including community-based poetry that was sandblasted into the concrete and community-designed, in-ground, and wall murals that youth artists installed with mentorship from seasoned community artists.

7. Support community activism

A resilient water future is intrinsically tied to the strength of our communities as much as the strength of our physical infrastructure. Research shows that the more socially connected and civically engaged a community is, the better it can recover and rebuild after natural disasters or other negative events. In addition, in emergency situations—such as toxic spills, extreme weather events, or infrastructure failures—formal systems and structures often break down or are overburdened, leaving community members to rely on their neighbors for basic needs and emotional support. In an era where recovery resources are increasingly constrained, building the resilience of communities is fundamental.

Arts and cultural activities can help fortify the “social infrastructure” that is essential for resilience and civic participation. Arts and cultural traditions and practices strengthen community bonds, often connecting people to each other and the place in which they live. The more connected people feel to each other and their home, the more likely they are to participate in protecting their community. For this reason, arts and culture have long been integrated by community organizers and grassroots environmental groups into their work around a wide range of issues, including water, because of the ability they have to unify, motivate, and empower communities to act.

Artist Dan Borelli engaged his hometown community in becoming environmental stewards of water quality through the Ashland Nyanza project. *Photo credit: Justin Knight Photography.*



For example, Southern Louisiana faces a range of challenging water issues, including toxic pollution from the oil industry, increasingly dangerous hurricanes, and rapid sea level rise—all of which compromise the lives and livelihoods of people in the region. In 2015, artist collective **Mondo Bizarro** partnered with the **Gulf Future Coalition**, a multi-sector coalition of nearly a hundred organizations from across the region, to engage the community in a conversation about the BP oil spill settlement. The artists helped infuse elements of local culture—food, music, storytelling—into the community discussions, which helped build trust, strengthen relationships, and deepen conversation. Similarly, **Cry You One** is a performative storytelling platform that acts as a means for organizing a community response to the recent natural and ecological disasters that have ravaged Louisiana’s coastal communities, including Hurricane Katrina and the BP oil spill. First premiering in 2013, the recurring performance utilizes site-specific theatre pieces to gather and share personal experiences of land loss and coastal erosion around the New Orleans coast. Each iteration of the show provides different perspectives on the problem and creates a shared space for audience members to share their sense of loss. In the work of the Gulf Future Coalition, Mondo Bizarro, and Cry You One, arts and culture strategies were so effective at motivating community action and building capacity that local resilience planning and disaster preparedness agencies are now integrating arts and cultural strategies into planning for future disaster preparedness, and their work on a regular basis.

Arts and culture can be powerful in activating citizen engagement in water management and stewardship. For utilities and policymakers that are committed to a more equitable water future, citizen activism can also create the mandate and supportive context for government officials and utilities to pursue more ambitious sustainability policies and practices. Whether it’s inspiring citizen activism around water conservation, watershed restoration, water quality, or other local issues, these efforts can drive change in communities from the grassroots and the policy level.

For example, hazardous sites and land uses often threaten vulnerable communities through compromised drinking water, risk of contamination during floods, or ambient pollution from wastewater treatment facilities. The range of environmental hazards concentrated in low-income neighborhoods and communities of color has contributed to a legacy of distrust in institutions, including the public

sector. According to a study by the Pew Charitable Trust, a staggering 68 percent of Americans only trust the government to do what is right some of the time, while 11 percent say they never trust the government.²² The challenge of eroding public trust is being felt in the water sector, too. Recent water crises, especially the tragedy in Flint, MI, have contributed to a decline in public trust of government and decreased confidence in the quality of drinking water.

In Ashland, MA, a Superfund site has been a source of community suffering due to contamination left over from a chemical dye factory that closed in the 1970s. In 2015, local artist **Dan Borelli** began doing research and found that hazardous levels of chemicals in the groundwater and river still existed, despite cleanup efforts years earlier. The community had been plagued by decades of health issues related to the contamination and was reluctant to take action or acknowledge the ongoing risk. Borelli created a participatory artistic experience—changing the streetlights of the town to match the color of the dye in the ground and leading walks for the community. This evocative, visceral, and social experience brought the threat back to the public discourse and at the same time gave people a sense that they could collectively do something about it. Borelli also created a beautiful healing garden so that people who had directly experienced the negative impacts of the dye could have a place to process their experience. There is now an active citizen action committee working to educate the public, ensure safe development around the contaminated site, and push for additional clean-up.

Many water agencies are working to overcome negative perceptions and cultivate more positive relationships with residents in their service areas by engaging with residents in less transactional ways. Local artists can be valuable partners for government agencies who want to build trust with the people they serve. Artists from these communities can help government partners learn about community needs and foster interactions in culturally-appropriate ways. Water management can also benefit from the role artists play as activists in the community. As artists and water organizations come together on shared priorities, together they can spark collective action that can be a driving force to create change and advance more sustainable water practices.

The Path Forward: Building Cross-Sector Capacity for Collaboration

As this report illustrates, there are countless examples of how water leaders can use arts and culture approaches as an effective tool for making progress on pressing water issues. Exciting art-water partnerships are blossoming all across the country—from Santa Monica, to Fargo, to New Orleans—revealing the potential of collaboration, innovation, and bold new thinking. While promising, the use of arts and culture in the water sector is episodic at best. The work often begins with a tenacious water leader who realizes they can go farther and faster in their work by partnering with a local artist or cultural organization. Other times, an entrepreneurial artist may see how their work can help people understand the complex water problems of today, and seek partnerships with water leaders in their community. How do we nurture these seeds of innovation to achieve large-scale impact? How do we integrate arts and culture strategies into how the water sector educates, plans, and builds in the future?

While we hope this report sparks thinking about these possibilities, to go beyond individual projects and create a robust field of practice, we first need to build the internal capacity of water organizations to understand and work with arts and cultural partners. We also need to build the capacity of arts and culture leaders to engage effectively with water organizations. Both sides need to find ways to meet in the middle. Artists and cultural leaders must recognize the constraints and bureaucracy within which water utilities and quasi-government water agencies operate, and perhaps view it as a creative challenge to find ways to work within these constraints. Similarly, water entities need to create space for flexibility and experimentation within those constraints in order to effectively work with artists and communities. Liaisons that understand the culture and processes of both utilities and artists can be effective connectors and translators. Artists-in-residence at utilities or government agencies can also fulfill this role, allowing artists an opportunity to become more intimately familiar with the organization's priorities and programs and discover opportunities where art-centered processes or products might advance agency goals.

Cultivating a field of practice also means creating spaces and mechanisms that enable effective cross-sector collaboration. This will require: creating shared standards of practice, disseminating lessons learned from demonstration efforts, cultivating leadership and cultural shifts within institutions, leveraging resources and policies to remove barriers, and incentivizing more of this work. We hope this report is a catalyst for that.

This section presents recommendations based on the input from water, arts, and culture practitioners leading in this space. Their recommendations focus on building the structures and capacity that will allow for fruitful partnerships between water leaders and arts and cultural leaders and enable a robust field of practice to take hold in more communities across the country.

Foster peer exchange and networking between water and cultural sectors

To expand a field of practice around arts and cultural strategies for One Water management, practitioners in both sectors need opportunities to get to know each other and begin to develop shared language and practices. On the most basic level, water leaders need opportunities to meet artists and experience arts and cultural strategies in action so that they can develop a personal understanding of how arts approaches might relate to their mission and priorities. Artists need opportunities to interact with water leaders and understand their goals, processes, and constraints in greater depth. Whether dedicated cross-sector convenings, delegations of artists at water industry conferences, or local working groups and peer exchanges, building relationships between the two sectors is foundational for creating alignment between diverse partners that often have different motivations or working methods.

Build the evidence base

While existing projects and initiatives provide a proof-of-concept, broader adoption of arts and culture in the water sector will be enabled only if we build a robust evidence base about how this work can achieve measurable and meaningful outcomes. Many water organizations, utilities, or government agencies need evidence and data to make the case for spending ratepayer or taxpayer dollars on these kinds of activities. Drawing from existing models that have achieved qualitative and quantitative results lowers the risk and enables leaders to build internal and external support for these efforts. Data from these examples can equip water leaders with the information to make the case and demonstrate triple-bottom line returns on investment—economic, environmental, and social.

Create tools and resources to support implementation

New tools and resources are needed to ease the creation of these partnerships and advance this work. For example, sample budgets, contracts, project checklists, and guiding questions can help arts and water practitioners align expectations around roles, responsibilities, deliverables, what the work will look like, and how to quantify time, labor, and resources at the outset of a project. Sample metrics can help partners set expectations for outcomes and determine evaluation methods. Finally, models for ways arts and culture can be integrated into water utilities—including embedding arts and culture into existing education and outreach programming or large capital programs, or using contracting and procurement to bring artists into planning, design, and construction processes—can help utilities understand their options. It is critical that these tools and resources enhance, rather than replace, relationship-building and collaboration, so that these partnerships are transformational rather than transactional—with both parties contributing to creating something together, not solely exchanging ideas and services.

Invest in place-based demonstration projects and disseminate learning widely

Water management is incredibly localized, so the arts and culture strategies that support it must be as diverse and place-rooted as the unique populations and circumstances in those communities. By investing in place-based demonstration efforts, collaboration between water, art, and culture can forge deeper connections with the people that live there and enable organizations to more acutely measure and track the results of a particular strategy. Advancing this field of practice requires investing in local place-based demonstration efforts and prioritizing neighborhoods where there is a demonstrable water-related needs; where there are local artists and/or strong community cultural partners and where there is sufficient political support for these innovative approaches. While each collaboration will look different depending on the location, purpose, and nature of the project, it is also essential to document, evaluate, and share results of local efforts more broadly, so that practitioners in different places can learn from one another's experience regarding what works and what does not.

Support policy and funding to enable this work

Changes in policy and funding structures can help advance this kind of work, both by removing barriers and creating incentives. For example, policies that dedicate a percent of public above-ground construction funds to public art already exist in many cities across the country. These policies could be expanded to enable these funds to support hiring artists on design teams, the integration of arts elements into the infrastructure itself, creative planning processes, as well as the more common practice of commissioning a physical piece of art. Additionally, arts, culture, and water leaders can work with local arts agencies and philanthropic organizations to embed these strategies in city-wide arts master plans, or other funding vehicles.

Now is the time to spread, sustain, and scale arts and culture strategies as a unique tool for problem solving and making progress on our nation's pressing water challenges. To do so, we need to invest in building a robust field of practice—one that cultivates the commitment and capacity of the water sector and arts and culture leaders to work in tandem. This report is just the beginning. By fostering strategic partnerships and alliances across these unique sectors, we can maximize diverse skill sets to inspire the nation and transform the way water is viewed, valued, and managed.

1) Water Bar & Public Studio; **2)** HighWaterLine | Miami; **3)** Ashland-Nyanza Project: Illuminating Futures; **4)** The Fargo Project; **5)** Michael Singer Studio; **6)** National Tribal Water Center | Water is Life; **7)** San Francisco Public Utilities Commission; **8)** The Trust for Public Land.



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Water Bar & Public Studio

Serving water to build relationships and transform culture



Photo credits, top to bottom: Water Bar & Public Studio; Crystal Bridges Museum.

Context

Minnesota is home to more than 10,000 lakes and more than 90,000 miles of rivers and streams.²³ Despite being a state rich in water resources, Minnesota is not void of water challenges. Water is deeply connected to the vitality of the Twin Cities and Minnesota, yet residents may not be aware of the various threats to the waters that connect and sustain their communities. Roughly 40 percent of Minnesota's lakes and streams are polluted.²⁴ Pollution also threatens groundwater supplies that are used for drinking water, and some regions face water supply threats because demand has outpaced groundwater replenishment.²⁵

Coordinating across state and local agencies—including water boards, zoning authorities, river and lake councils, and watershed districts, all with varying levels of jurisdiction and unique water plans and policies—presents a significant challenge in the state. For example, nearly 100 water suppliers in the Twin Cities metro area draw from groundwater, the Mississippi River, and treated stormwater to serve commerce, industry, and almost three million people.²⁶ As the state looks to the future, these water challenges need increased public attention and coordinated action from water agencies and the public, as reported by the Metropolitan Area Water Supply Advisory Committee to the Minnesota Legislature.

In 2014, Shanai Matteson and Colin Kloecker, artists and community builders from Works Progress Studio, launched Water Bar & Public Studio to inspire people to consider where their water comes from and how to work together to protect it. Located in Northeast Minneapolis, but working across the state and the country, Water Bar has evolved into a community cornerstone that engages people in authentic dialogue about water resources, cultivating exchange among people of diverse geographic, social, political, and ideological backgrounds. Their theory of change is that if Minnesotans can engage in open dialogue around water with the people who protect and maintain their water sources, they will feel more connected to their water and be more likely to engage in sustainable water behavior and support water policies.

Project

Water Bar & Public Studio is a community space that aesthetically looks like a hip neighborhood bar or taproom. However, water is all they serve. Located in the heart of Northeast Minneapolis' Arts District, Water Bar attracts a wide variety of visitors, especially those who might not normally participate in conversations about water. Drawn in by the captivating uniqueness of Water Bar's aesthetics and artwork displays—including visual art exhibitions, dance workshops, music and poetry performances, and community art events—visitors are encouraged to sit at the bar and taste water from various local water sources as part of free "tasting flights."

A rotating cohort of activists, artists, elected officials, and others from a variety of backgrounds serve as "water tenders" at both the storefront and pop-up events, engaging participants in conversations about water. Rather than taking a traditional approach to educating people about water and ecology issues, which can be one-directional, Water Bar is a casual, nonjudgmental convening space for people of all backgrounds to engage with water and environmental issues in a deeply personal way. Water tenders spark dialogue with questions about the visitors' experience with water: What do you taste? What memories of water does this spark? Do you know where your drinking water comes from? The experience is designed to feel like a local bar, where visitors might go to have friendly conversations with fellow patrons and bartenders. At Water Bar, information is shared in the form of stories, rather than data, prioritizing the cultural, emotional, and aesthetic qualities of water, before weaving in science and policy.

Water Bar trains all its water tenders to talk about water in this engaging, open-ended way, even though each person also brings their own interests, experiences, and expertise to the job. The activity of tending the bar puts experts in a customer service role, flipping the power dynamic and communication flow of the traditional community meeting model. Participants are the focus of the activity, not a specific project, organization, or expert, which builds more meaningful relationships, awareness, and trust.

Over the last five years, hundreds of stakeholders and over 50 organizations have collaborated with Water Bar to learn and benefit from their unique approach to engaging people around the value of water to Minnesota. From utility and watershed leaders, to public officials, scientists, engineers, business leaders, environmental activists and community-based groups—partnering with Water Bar helps these leaders communicate complex water resource challenges to community stakeholders and public audiences and gather meaningful community input.

“The power of Water Bar lies in its informal, artistic approach to engaging citizens. Each experience is completely different from the other. It’s not about converting people or changing their ideas, but more about having conversations in a fun, water-centered environment that builds relationships and helps imagine what our water future could be like.”

—Linda Henning, Manager, Special Projects Office,
Metropolitan Council

In addition to the permanent space, Water Bar uses pop-up events to reach people where they are, like the Minnesota State Fair. Water Bar has facilitated over 150 pop-ups around the Midwest and the country, sparking conversations with over 55,000 people at schools, museums, fairs, university events, festivals, and more. The aesthetic and versatile format of the pop-ups, featuring flags, photos, and tasting flights draws people into talking about water issues where they live, work, and play.

“Whether you are at Water Bar or at a pop-up event, everything around you calls your attention to water in a way the typical educational or promotional materials government uses do not. Because of this, people are talking about water in our community like they never have before.”

—Councilmember Kevin Reich, Minneapolis City
Council, Ward 1

Critical success factors

- **Focus on relationships to transform culture.** Water Bar focuses on serving water in an arts-based setting to enable authentic conversations. The diverse and powerful relationships that form between members of the public, water experts, and community leaders is transforming the culture of water management so that it better serves water and people. This model has enabled successful collaboration between multiple water related entities and the general public. When government entities are constrained in the communications, education, and outreach approaches they utilize, artists can help develop more relationship-centered approaches to connecting with the community and across silos.
- **Mobility and captivating aesthetics.** The mobility and versatility of Water Bar allows partners to host pop-ups at virtually any site, in addition to functioning as a permanent community gathering space in Minneapolis. This allows dialogues around water to be front and center wherever people are—from universities and schools, to local farmers markets, to festivals and parks. That versatility has enabled Water Bar to both ground itself within the Minneapolis community while reaching audiences beyond the city. In addition, the intriguing premise of a water-only bar, coupled with eye-catching graphics, sparks public interest and is a model that many government and quasi-government agencies can adopt. This is changing the culture of the way agencies and experts show up in the community and how they communicate about water.
- **Sustainable financial model.** Water Bar & Public Studio operates as a public benefit corporation, not a 501(c)(3), and is sustained through a combination of earned income from products and services (such as Water Bar Pop-Ups), impact investments by organizations and individuals, and project-based partnerships with nonprofit and government groups. This unique business model provides flexibility and adaptability for the creative directors, and reimagines how this work can be supported and scaled beyond a nonprofit model.

“Forming Water Bar as a public benefit corporation, rather than a nonprofit, has also allowed us to shift the way other sectors see artists—as creative entrepreneurs with potential to not only impact culture, but also the environmental sector and economy. We are, in some sense, business leaders too. We can interact with business leaders as peers and potential collaborators, and not only as artists looking for support.”

—Shanai Matteson, Co-Director, Water Bar & Public Studio

Outcomes

- **Transformed public conversations and engagement on water issues.** One of the most significant outcomes of Water Bar is how it has transformed the ways in which public officials, water utilities, scientists, environmental organizations, engineers, and other institutions interact with the public they serve and with each other. Through arts and cultural approaches, Water Bar is transforming the way the public perceives, understands, and connects to water. It gives participants a sense of ownership because they are not just passively absorbing information, but actively creating and contributing to the conversation in a culturally relevant way. Minneapolis residents who live just blocks away from the Mississippi River, but who had never felt a deep connection to it, are now establishing personal, visceral relationships to their water sources.

Water Bar’s storefront and pop-up events draw people together from all walks of life for conversations around water. *Photo credit: Elsewhere Museum.*



Water Bar has collaborated with community groups to develop other versions of Water Bar that speak to specific populations. For example, Mniówe (Dakota for “a place to gather water”) is a Water Bar developed with the Dakota Language Society and the indigenous artists of Healing Place Collaborative. In these conversations, water tenders are often artists and community members that speak Dakota and facilitate conversations with Dakota and non-Dakota community members, tribal leaders, and water sector experts on the cultural significance of water for indigenous people. These events have fostered growing cultural competency from water leaders and new relationships across these groups.

“It’s changed the way I interact with community members and with other organizations. I talk a lot less and listen a lot more.”

—Kate Brauman, Lead Scientist, Global Water Initiative, University of Minnesota Institute on the Environment

- **Improved cross-sector collaboration to achieve better water outcomes.** Water Bar is also busting silos and increasing coordination in their respective water-related work. As water experts from different backgrounds and organizations tend the bar together, they learn from each other and begin to form relationships that are the foundation of cross-agency collaboration. A number of city departments and officials have participated as water bar tenders, including engineers from the Public Works Department. After their participation, they reported having a greater appreciation for what can be achieved when working with artists and with other agencies. The collaborative relationships Water Bar fosters yields multiple benefits for their partners, bolstering support from municipal leadership and helping build the case for more cross-sector collaboration. In one recent collaboration, Water Bar brought together artist Aмоke Kubat and the City of Minneapolis, who had never worked together before, to co-host a workshop series where mothers, specifically women of color, designed “climate emergency kits” and water education resources for their communities.

- **Increased public attendance and support for local water projects.** Advocacy and public sector forums on local water issues are typically poorly attended. The unique art-centered strategies deployed by Water Bar help nonprofit organizations and government agencies dramatically increase attendance at community events. Many partners report attendance growing from an average of around ten people to as many as 90 people after working with Water Bar. The Mississippi Watershed Management Organization (MWMO) reports that the relationships they built with Minneapolis artists through Water Bar have helped them develop more creative approaches for technical discussions with the public, and as a result, garner more support for their work.

“Speaking from a cultural perspective gets into people’s hearts more than if we lead with the engineering or science. That has changed the way we approach these conversations and the way the public views and supports our projects.”

—**Stephanie Johnson**, Outreach and Engagement,
Mississippi Watershed Management Organization

- **Growth in adoption of arts-based water projects.** Water Bar has also inspired organizations and public officials to develop their own arts-based, community-oriented water projects by serving as an incubator for new projects and programs that bridge art and water. Now, many are adopting creative planning or arts-based approaches on their own, including a neighborhood barbecue organized by the Public Works Department featuring their own version of a Water Bar pop-up.

Conclusion

Water Bar is helping to make water central in public life by serving water, changing the way institutions and experts talk about water with the public, cultivating relationships across diverse interests, and inspiring organizations to consider the role of arts and culture in their work. Their artistic approach is vital in helping the public understand and value their water resources. Strategies like this—focused on service, shifting power dynamics, and cultivating human conversation—can be applied to other projects and to other communities across the country.

Water Bar’s signature water drop screenprint. *Photo credit: Water Bar & Public Studio.*



Passersby try water flights at a Water Bar pop-up event. *Photo Credit: Water Bar & Public Studio.*



HighWaterLine | Miami

Sparking conversations and building a more resilient Miami



Photo credits: Jayme Gershen.

Context

Considered ground zero for sea-level rise, Miami is the second most vulnerable city to coastal flooding in America²⁷ and is ranked first in terms of assets exposed to coastal flooding.²⁸ Sea levels in Miami-Dade County are expected to rise approximately 15 inches by 2045.²⁹ This will impact large portions of the community—one-fifth of urban Miami-Dade County lies at elevations that are within one foot of sea level at high tide, and about one-third is within three feet.³⁰ In that time, flood-prone regions in Miami-Dade County's coastal region could face nearly 380 high-tide flooding events per year.³¹ Lower-income people are concentrated in these low-lying neighborhoods, making these communities particularly vulnerable. Communities on higher ground are at risk of climate gentrification, whereby the threat of climate change drives development in higher ground neighborhoods and displaces existing, typically lower-income people to low-lying areas with considerable climate risk.³²

Not only do rising sea levels and increased urban flooding threaten homes and businesses in Miami-Dade County, but it also impacts the community's water and energy infrastructure. Saltwater intrusion contaminates drinking water supplies, floods power plants, and causes power outages. As saltwater increasingly infiltrates the aquifer, which serves seven million people or nearly one-third of Florida's population, local utilities will need to invest in additional treatment technologies or identify alternative water sources.³³

Given these challenges, it is essential to build greater public understanding about the climate challenge as well as political will for investment in a resilient water future. Sea levels rise slowly over time, and it can be difficult for people to understand the urgency of the challenge amid this incremental change. Between a focus on immediate needs and compartmentalization of issues—housing, education, transportation, socio-economic, and racial issues—looming challenges like climate change may not rise to the forefront. There are significant differences in awareness levels across different demographics based on how they currently experience climate change. Many middle-class communities still see extreme storm events as isolated incidents, not part of a broader global phenomena of climate change. Meanwhile, people of Latino descent, especially Spanish-speaking people originally from vulnerable areas in the Caribbean or Latin America, are much more engaged with the issue, its

risks, and the policy solutions.³⁴ These demographic differences can cause further challenges in spurring action around climate change in a city like Miami where the diverse population has polarized perspectives.

HighWaterLine uses art to demonstrate to Miami residents and public officials how climate change and sea level rise affects their communities—cultivating a sense of urgency and inspiring people to act in ways that support resilience.

Project

Created by artist Eve Mosher, HighWaterLine inspires curiosity, dialogue, and action on sea level rise. The first iteration of HighWaterLine took place in 2007 in New York City, the only US city more vulnerable to sea level rise than Miami.³⁵ Mosher walked nearly 70 miles of the city's coastline drawing blue chalk lines with a field line chalker on city streets to designate 10 feet above sea level. The line revealed the effect that sea level rise and expected flooding would have on specific areas of New York City. While creating the line, Mosher engaged in conversations with passersby about the sizable and impending impacts of climate change.

Guided by her experience in New York City, in 2013 Mosher partnered with interdisciplinary artist and organizer Heidi Quante, local community leaders, Miami-based Urban Impact Lab, University of Miami, Florida International University, and Florida Atlantic University to bring HighWaterLine to Miami. This time, the process started with engaging the community as active participants, rather than just observers. Mosher had learned from the first iteration of the project that active participation was the critical factor in attitude and behavior change. Through informal dialogues throughout different parts of the city, the HighWaterLine team spent six months listening to people's existing understanding of, concerns, and experiences with sea level rise and flooding. At the same time, Mosher worked with the university partners to understand climate change impacts, run design competitions with architecture students, and inspire a studio on climate change.

“The informal dialogues with people were intensive, but they were the heart of the project. It allowed us to think differently about how we can use people’s experience and what they know, need, and are interested in, to get to the outcomes they want for their community”

—Irvans Augustin, Founding Partner and Creative Director, Urban Impact Lab

Following the listening process, HighWaterLine brought together diverse Miami residents for a series of storytelling and solutions workshops hosted by the Million Persons Project, a global storytelling workshop, over the course of nine months. The stories focused on challenges that have been overcome in participants’ personal histories and how that resilience can be used to help address climate change issues. The group then examined how Miami is being, and will be, impacted by climate change. Community members engaged in a participatory process to understand and interpret the scientific data about climate change, sea level rise, and flooding. Residents and local groups used creative processes, like word play, to formulate solutions and strategies that the HighWaterLine project could present.

“A key intention of HighWaterLine is to create space for one-on-one conversations about climate change with people in spaces where they live work and play. These conversations are a chance to truly share knowledge and experience. The project moves at a casual pace and creates a moment of curiosity from which a conversation can spring.”

—Eve Mosher, Artist, HighWaterLine

Families chalk a six-foot sea level rise line for HighWaterLine on Biscayne Boulevard in Miami, FL. *Photo credit: Jayme Gershen.*



At the end of the engagement process, the Miami team hosted a pre-chalking and social media event. Writing “where’s the line? #ResilientMiami” along the route built public anticipation for the actual performance, where workshop participants and other Miami residents made a procession around the city to enact HighWaterLine as participatory public art. Over 80 artists and residents used field chalkers to draw a blue line around a 26-mile perimeter of the city—across homes, historic sites, and public spaces—this depicted the likely loss of land as a result of sea level rise induced storm surge and flooding.³⁶ The artists worked with photographer Hugo Montoya to produce images of people standing chest deep in water, and artist Patricia Hernandez documented interviews and soundscapes from the project. The participatory aspect of the project drew attention and curiosity from the media and passers-by, sparking a dialogue between participants and their neighbors about the threats of flooding and the need for sustainable climate solutions.

Critical success factors

- **Engaging the community early as active co-creators maximized impact.** HighWaterLine Miami was created by a team of artists, community organizations, and Miami residents working together. Because community members were part of the storytelling and solutions discussions from the beginning, their stories and lived experience grounded the effort. That inspired them to become ongoing advocates and champions for change based on their realizations throughout the course of the project. This was especially significant because the artists were working in a community that was not their own. Therefore, the partnership with local organizations and people was key to the impact and the longevity of the project’s outcomes.

“Listening to and honoring the local knowledge of the communities you collaborate with is paramount. The strength of this initiative comes from diverse stakeholders pooling their skills together to create a new approach to developing community resiliency.”

—Heidi Quante, Artist and Coordinator, HighWaterLine

- **Visualization of the future evokes emotion and prompts action.** A key challenge around building public and political will for action on climate change is that the challenges are long-term and the changes are often

incremental at first. Therefore, it can be hard for people to grasp how the risks will impact their lives until it is too late to effectively mitigate them. HighWaterLine overcomes this barrier by engaging people in the physical experience of drawing a line over their familiar landmarks so that they see how climate change will manifest in their daily life. Seeing that the places they love, frequent, and call home will be inundated with water or may no longer exist provokes an emotional response that can spur action in a way that telling people about how many feet the sea will rise does not. And as Miami participants were going through its process, the line created in New York City was erased by flooding from Hurricane Sandy.³⁷ While this project demonstrated the impending threat to local communities, it did not leave people in despair, but rather with the tools and knowledge to chart a vision for resilience. Ultimately, the project catalyzed a wave of community-activism around climate mitigation, adaptation, and education.

“People are poor at envisioning the future from data alone, especially when you talk about how many inches the sea will rise. Art helps make these abstract concepts more accessible. HighWaterLine made this creeping problem more concrete. It showed people the magnitude of what’s at stake if we don’t act.”

—Dr. Kenneth Broad, Professor, University of Miami
Rosenstiel School of Marine and Atmospheric Science

Outcomes

- **Sparked organized action around climate resilience.** HighWaterLine Miami inspired a movement for action on sea level rise that went far beyond the duration of the participatory performance. Most notably, HighWaterLine inspired the creation of Resilient Miami, a group of citizen advocates for the community-designed solutions that were generated in the workshops. Since the creation of HighWaterLine, this group has now embedded in other organizations that work on climate issues in various ways.³⁸ The HighWaterLine Miami team also worked with Catalyst Miami, a community-based social justice organization that had never before engaged in environmental work. By participating in HighWaterLine, Catalyst realized that environmental issues like climate change and social justice are deeply interconnected. As a result, Catalyst Miami now has a new body of work focused on climate justice and successfully secured funding to do more work in this arena.

- **Elevating climate resilience as a local priority.** Shortly after the HighWaterLine project, Miami-Dade County was named one of the Rockefeller Foundation’s 100 Resilient Cities in 2016. Miami-Dade County’s Office of Resilience has been working with 100 Resilient Cities to develop and implement *GreenPrint: Our Design for a Sustainable Future*. Also following the project, the Miami Foundation incorporated sea level rise into its portfolio of funded work—something it had not previously funded.
- **Providing a replicable model for other cities.** The HighWaterLine project has been successful in Miami, and its creative community engagement process make it easily accessible and replicable in other cities facing water challenges. In Philadelphia, increasingly intense storms, sea level rise in the Delaware River estuary, and increased surface area of impermeable surfaces have overwhelmed water infrastructure and caused flooding, so residents created a HighWaterLine along the riverfront neighborhoods by the Delaware and Schuylkill Rivers. HighWaterLine was also replicated in Delray Beach, FL where the city’s Office of Resiliency partnered with local artists to use the data to create the line and other publicly engaged works around the city related to climate change. In each of these cases, residents and artists led the project, from interpreting the scientific research to the creation of the line. Mosher and Quante recently released the *Guide to Creative Community Engagement*, a web-based roadmap of resources for others to implement HighWaterLine in their own communities with strategies for building community resilience to climate change at a local and regional scale.³⁹

Conclusion

HighWaterLine Miami sparked greater awareness and engagement by local people in climate resilience efforts by providing participatory arts-based opportunities to understand how sea level rise will impact them personally. The aesthetic visualization served as an entry point to discuss other topics related to climate change, including energy, development and transportation, and emergency evacuation in south Florida. Art and personal storytelling lowered the barrier of entry to talk about challenging climate change issues, spurring a wave of community activism in Miami. The deep community engagement by the artist-activists over many months enabled the community to move from an awareness of their vulnerability to an understanding of their role in finding solutions.

Ashland-Nyanza Project: Illuminating Futures

Transforming a culture of loss to a site of healing



Photo credits, top to bottom: Dan Borelli; Justin Knight Photography.

Context

Ashland, Massachusetts is the site of the first color dye manufacturer in the country, Nyanza Color & Chemical Co. The factory was shut down in 1978, but not before the company dumped over 45,000 tons of toxic chemicals—including mercury, chromium, lead, and cadmium—into the surrounding waterways or buried them underground. Over the following decades, chemical waste seeped into the surrounding soil, groundwater, wetlands, and the Sudbury River, earning the area a Superfund designation in 1982 and the unwanted recognition as one of the ten most toxic sites in the country. In the 1990s, there were efforts to remediate the site, mostly through containment and capping of the toxic material in a plastic lined landfill. While warning signs lined the banks of the river and homes near toxic vapor plumes were retrofitted with filters, there were no plans for additional cleanup, despite the fact the EPA acknowledged significant ongoing risks to human health and the ecosystem.

In the 1980s, the town saw a spike in diagnoses for rare cancers, but at the time health officials said there was no evidence that these cancers were related to the Nyanza site. This contradicted what people were seeing in their community, weakening public trust of official sources and leaving residents feeling powerless. Then, in 2006, the Massachusetts Department of Public Health released the results of a study confirming that these cancers were, in fact, linked to the dye contamination. By this point, people believed the dye was safely contained, and there was no significant public action or discussion.

Nationally, industrial pollution disproportionately affects low-income communities, like Ashland, in both rural and urban areas. There are currently nearly 1,400 Superfund sites around the country, many of which are tied to water. Political will is key to ensuring that polluters are held accountable and that cleanup is fully completed. Citizen advocacy can make a big difference, but that can be a lot to ask from communities that are already politically or economically marginalized. In addition to ensuring that water sources are clean and safe, communities who have suffered from toxic events need acknowledgement of the harm done to them and opportunities to heal.

In 2010, local Ashland artist Dan Borelli started reviewing the EPA data about Ashland and realized that there were still dangerously high levels of contamination in the groundwater and river. Since 2015, Borelli has been using a variety of artistic methods to raise awareness of the ongoing contamination, spark dialogue, create a context for acknowledgement and healing, and mobilize public stewardship.

Project

Borelli knew that no change would happen unless he broke the code of silence and brought the contamination back into the forefront of public conversation. He also knew that simply publicizing data wouldn't motivate public outcry or official action—after all, the data was already publicly available on the EPA's website. Instead, he used the EPA data to make an artistic, interactive map that showed where toxins still existed under the town. In 2015, he partnered with the local public library to exhibit the map as well as other artifacts and stories gathered from people in the town that related to the site.

Working with Borelli, the town understood that communicating about contamination was important to prevent additional illnesses, yet they were skeptical about the role art would play. Borelli designed a spatial intervention to install colored filters on streetlights throughout the town to indicate the concentration of different colored dyes in various locations. The proposal to help the public experience the data helped Borelli build support from the town manager, Planning Department, and Department of Public Works to install the lights.

“Information alone won't move people. Intervening in public space is a forceful statement. Data on a website is easy to ignore, but when people experience something viscerally in their built environment it changes them.”

—Dan Borelli, Artist

Over the course of a month, Borelli led walking tours under the lights, which illuminated sites of contamination. This experience of being bathed in colored light representing the actual presence of toxic dye in the places where they lived, worked, and played every day made the contamination real in a way that the map exhibit had not. Community members began to realize that the pollution they thought was safely contained was actually still

widespread throughout the town—underneath the Town Hall, the police station, and people’s homes—contaminating groundwater and evaporating into dangerous vapor plumes. Experiencing the pollution distribution moved people in a way that data could not. Some were angry, many were scared. Borelli’s intention was not to stir up old trauma, but to motivate people to organize for change—and it worked. People in the town formed a citizen action committee that has been advocating for full clean up and exercising oversight to prevent further harm.

“The Ashland Citizens Action Committee was formed when concerned citizens were faced with the reality of development near the Superfund site. Dan’s participation and knowledge of the site helped our group move swiftly with town officials and spread the word to uninformed citizens the potential risk of damage to the site and active plumes. Due to our group’s activism, we were able to implement change with the addition of the Nyanza Advisory Council and Town Bylaws.”

—Lisa Kaufman, Member, Ashland Citizens Action Committee

Borelli also wanted to create contexts for people to come together and heal as well. The final component of the project is a memorial healing garden adjacent to the Superfund site, which can be a place for contemplation and connection for people who lost loved ones to illness. The creation of the garden is a true collaboration: the town donated the land, local construction businesses have contributed in-kind support, and apprentices from the New England Laborers Training Academy provided the

labor as part of their training. Borelli contributed the vision and the aesthetic design. The garden features a stained-glass pavilion that bathes visitors in multi-colored light, giving town residents an opportunity to experience color in a healing, rather than toxic, way. This site is now a popular gathering place for family picnics and community events.

Honoring the legacy with Ashland Memorial Drive

In 2017, Ashland Town Manager Michael Herbert renamed the entrance road to the Ashland Memorial Healing Garden as “Memorial Drive.” The entrance sign is a poignant conclusion to the collaborative spirit of this artistic intervention:

Like many industrial facilities across the country, for 60 years the Nyanza Chemical Company disposed of toxic waste into Ashland’s environment as part of its manufacturing process. The resulting contamination has been linked to the chronic and terminal illnesses in the area. The site is also one of the nation’s first Superfund sites. Tens of millions of dollars have been spent remediating the land, and there still exists a contaminated groundwater “plume” underneath the ground. Ashland’s Memorial Drive serves as a constant reflection on those that have lost their lives to the Nyanza Site and serves as a reminder that the capitalistic pursuit of economic progress should not come at the expense of a community’s health and well-being.

The Ashland-Nyanza Project brings water contamination to light in Ashland, MA. *Photo credit: Justin Knight Photography.*



The Ashland Healing Garden transforms a publicly accessible area near the Superfund site into a space for reflection. *Photo credit: Dan Borelli.*



Critical success factors

- **Participatory, creative experiences foster collaboration and healing.** The Nyanza project fully engaged the community as subjects, participants, and eventually, leaders of change. In addition, town leaders, government officials, the EPA, and others influenced the trajectory of the project. While the artwork initially disrupted the false sense that Ashland was free of contaminants, it did not just leave the community in a state of disruption. To help the community heal and move beyond the trauma of the Nyanza legacy, the project provided opportunities for local people to participate, reconnect with one another around their shared experience, and collectively plot a path forward. The project provided opportunities for people to tell their stories and make change. While this kind of collaborative artistic practice can be a bit messy, in the end it results in a project that is embedded in and truly owned by the community.
- **Artist as a trusted messenger.** Like many communities that have experienced environmental injustices, Ashland lost trust in public institutions and official sources. Scientists told people the water was safe when it was not, and the government had continuously failed to adequately inform people of the extent of risks nor fully remediate the site. As a result, there remained a strong skepticism of experts and science advocates. As a local artist, Borelli was uniquely situated to be a trusted messenger. He says, “Artists don’t stand to gain anything by not telling the truth. They just reveal what they see. Local people trusted me, that what I was saying was true.” In large part, this is because he was from the community. People knew that he understood the culture of the town and had shared the experience he was trying to represent. At the same time, as an artist he also brought a different perspective and set of creative tools that allowed him to communicate about the issue in a newly revealing way.

“Sometimes there is not a lot of trust in ‘environmental’ messengers in rural areas and post-industrial cities. Artists can be powerful influencers because art can cross boundaries and ideological barriers.”

—Kate Wolford, President, McKnight Foundation⁴⁰

- **Support from external funding sources.** Borelli raised all the funds necessary to support the project (about \$350,000) from external sources, including state and national funders like ArtPlace America, Harvard University, the Massachusetts Department of Transportation, and the National Endowment for the Arts. Not only was this essential to allay any suspicions that he might be exploiting a local tragedy for his personal artistic goals, but it also helped build buy-in from local businesses, residents, and town government. The DPW crew was paid an overtime rate to install the colored lights and local businesses contributed in-kind support and labor for the garden.

“As someone who grew up in Ashland, Nyanza was something that was always in the back of my mind. My assumption post remediation was that it was no longer a health threat. I think most people felt similarly. Dan’s project, particularly when he lit the town up via colored streetlights served as a wakeup call and sounded an alarm as to how much pollution is still lurking under our town. For me, the streetlights illustrated the scope of the plume and reengaged the community to advocate for its proper cleanup once and for all.”

—John Rossi, Ashland Planning Board Member

Outcomes

- **Making invisible water contamination visible.** Water pollution is often invisible, only evident through the negative effects that it has on people and other parts of ecosystems. As a result, the issue may fade from public consciousness after an initial event, even if the contamination persists. By representing data through artistic experience, Borelli was able to connect people emotionally to the reality of the contamination and elevate the issue back into the forefront of public consciousness after 30 years. He realized intuitively what social science has proven unequivocally: emotional experiences shift consciousness and spur action in a way that arguments do not. This is essential because clean up requires substantial public resources. As Borelli put it, “if people don’t believe there is a threat, they won’t want to allocate the resources.” During the walking tours, a common refrain from residents was “I had no idea the contamination was this widespread.” By experiencing it with their own bodies in physical space, the abstract issue suddenly became real.

- **Changing a negative narrative and helping a community heal.** For decades, local residents had a deeply internalized sense that they lived in a sick, unhealthy place. This self-perception was exacerbated by good-intentioned national media trying to expose the contamination. With headlines like “Town shudders after high cancer risk confirmed” and “25 years later a poisoned town can’t come clean,” many locals hoped to forget their toxic past and move on. As an artist with a national profile, Borelli’s creative interventions attracted media attention to the town once again. However, the narrative was different this time. Instead of helpless victims, articles now highlighted how the residents were taking action. In a headline from April 1, 2018, Ashland is portrayed positively: “Nyanza still making the news but this time in a positive way.”⁴¹ This new narrative has reframed how local residents see themselves and the possibilities for their future and helps fuel ongoing civic participation.

- **Activating community residents as advocates.** The Ashland-Nyanza project successfully brought the issue of decades-old pollution back into the public consciousness and conversation, helping the community realize that the contamination was still an issue today. “It lit a fire under a group of citizens to get involved,” Borelli says, and resulted in the formation of the Ashland Citizens Action Committee (ACAC) in 2016. Using Borelli’s artistic renderings as their primary materials, the ACAC has been holding developers and public officials accountable and has been pushing for full cleanup of the site. A member of the ACAC attends every town meeting related to water to ensure public accountability and input.

A fabric wall represents the beautifully saturated colors that Nyanza’s colorants and dyes brought to people. The art piece was created by Dan Borelli for the Illuminating Futures exhibit, which ran in the in the Ashland Public Library fall of 2015. *Photo credit: Justin Knight Photography.*



- **Ensuring development is safe and responsive to community needs.** As a result of the renewed national attention and local citizen pressure, local officials have slowed down development near the contaminated site in order to fully assess the risks of disturbing the soil. The ACAC has also succeeded in securing adjustments from developers to ensure housing is safely sited. The town planning commission now has a Nyanza Committee that includes outside scientific experts to assess the environmental and health implications of proposed developments. The town is currently working with the ACAC group to create a contaminated groundwater bylaw to its zoning rules, requiring a permit prior to digging.

Conclusion

Borelli’s artistic intervention catalyzed citizen action by making the invisible water contamination real and salient, and mobilized people to organize to demand change. Local residents have succeeded in ensuring new developments do not put public health and water sources at risk, and are maintaining pressure for full cleanup of the river and groundwater sources. Ashland is not the only community at risk from polluting industries, many of which are overwhelmingly located in low-income communities and communities of color. Ashland’s experience using participatory art to raise the visibility of an invisible health and environmental challenge, mobilize public engagement, and influence public policy can be useful for other communities who are facing similar challenges.

A 3D topographical model of the Sudbury River valley was fabricated for the library exhibit by Harvard Graduate School of Design students Patrick Herron and Daniel Rauchwerger. *Photo credit: Justin Knight Photography.*



The Fargo Project

Creating a prairie for the people



Photo credits, top to bottom: Amu Productions for The Fargo Project (first three); Rachel Asleson.

Context

About 16 percent of North Dakota's total population lives in Fargo, a city located on very flat, extremely flood-prone land. Increased year-round precipitation, changes in farming practices, and increased urbanization have worsened spring flood events. During floods in 2009, North Dakota declared a state of emergency and called in the National Guard. The city's mitigation solution has been to install large basins to collect stormwater and protect traffic and property during rainfall. These basins serve an important purpose during rainy periods, but during dry weather, which occurs the majority of the year, they are unused and uninviting empty plots of land with little plant and wildlife diversity.

While the basins help to alleviate stormwater challenges, they have also disrupted the ecological diversity and community cohesion in Fargo. The sheer size of the 18-acre stormwater basins separate neighborhoods from each other and from amenities like parks located elsewhere in the city. An artist-driven community process guided the city towards finding a way for the basins to continue to serve their stormwater management function, but also regenerate ecosystems and provide opportunities for community connections across the diverse cultures residing in Fargo.

The Fargo Project has transformed these underutilized stormwater basins into beautiful public spaces that unify and celebrate Fargo's diverse communities while environmentally revitalizing the land. Through an arts-centered process, The Fargo Project provides opportunities for local government to work hand-in-hand with the community to address their needs. This approach has provided a way for the community to explore its local connections, expertise, and passions while more intimately learning about its diverse cultures and creating a thriving ecology.

Project

In 2009, the City of Fargo invited Jackie Brookner, an ecological artist with experience doing environmental work in other communities, to help address its stormwater and flooding challenges. Given Brookner's background working directly with communities in her projects, she guided the city to create a highly participatory planning process to reimagine the basins. The project began with what Brookner called "Building a Community of Interest." Through a year-long series of community consultations, Brookner and her team got to know the community members and stakeholders. She segmented sessions by stakeholder group—engineers, researchers, cultural topics, and others—to assess each group's perspective on what the community needed.

"From the first meeting, you could tell this was something people were really excited about doing—incorporating arts into green and blue spaces that are currently wasted space. What made it special was that the design wasn't about creating something for the people, but rather creating with them."

—Christina Hargiss, Assistant Professor Natural Resources Management at North Dakota State University and Lead Researcher, The Fargo Project

Based on what emerged from these consultations, Brookner designed a scope of work and a project that imagined the stormwater basins as enhanced green spaces that would address community needs and bring meaning to the surrounding neighborhoods. She then convened a day-long participatory design workshop, WeDesign, where community members used artistic methods to express their visions and ideas. Since then, local artists, neighbors, engineers, landscape architects, ecologists, and nearly 250 local partners have worked together on The Fargo Project's pilot installation, the World Garden Commons, to transform a stormwater basin located in Rabanus Park into a space that suits the community's unique social and ecological needs. Chosen because of its location in a neighborhood that lacked connectivity and physical spaces for groups of people to gather, 18-acre Rabanus Park has become a welcoming gathering space.

The Fargo Project is an example of how the necessity of creating flood management infrastructure can be an opportunity to engage residents, experts, and city leaders in planning and visioning around the use and design of community space. Since work on the Commons began in 2014 (estimated completion is July 2018), the land has provided ecological and social benefits to Fargo, demonstrating that community involvement during the development phases of a project can yield a significant return on investment.

For example, through the investigative questioning by Brookner, the team discovered that little was known about the details of the stormwater basin ecology, including the duration of the water inundation, the water quality, how the water traveled across the site, or the existing vegetation. Redesigning the basin to restore water quality was a goal of The Fargo Project's work at the World Garden Commons, so the city and Brookner teamed with North Dakota State University to research the possibilities of ecological restoration. To do this, the team removed the concrete channel that lined the basin and re-introduced native plant and animal species to create a natural, self-sustaining aquatic environment. Although there are small dams to direct the flow of the water, honoring the natural flow of the water and the ecosystem it inhabits is a core design principle. Creating pathways for the water to move eliminated standing water and reduced the mosquito population in warmer months. Meanwhile, planting native species facilitated the growth of deeper water infiltration and root systems. Two summers worth of monthly water quality samplings, in addition to samplings from big storm events, have shown marked improvements in water quality.

During a WeDesign Charrette, artist Dwight Mickelson engaged fifth-graders from Westside Elementary to design features for nature play at World Garden Commons. *Photo credit: Maegin Elshaug.*



“The Red River used to be an enemy in Fargo, but now people are talking about it as a good thing. Without Jackie Brookner’s art-inspired thinking, we probably would have manipulated the water a lot more, or over-designed it. By following an arts approach we can better manage the water on site and improve its quality. As awareness spreads, people think about the river and nature differently than they did before.”

—Jack Norland, Associate Professor of Natural Resources, North Dakota State University

The Fargo Project has yielded social benefits as well, from unifying the diverse community to educating residents about their environment. Fargo has a large population of refugees and immigrants—around 72 different languages are spoken in the school district. The Fargo Project process has focused on designing *with*, instead of *for*, the community in order to ensure the outcome serves all Fargo residents, regardless of country of origin or language. The arts-based methods used by Brookner and the other artists have provided ways for the community to share their ideas and desires through a range of modalities, not just words. This has resulted in more welcoming and inviting community spaces for activities that transcend cultural barriers and speak to Fargo’s unique geography. Before The Fargo Project, the infrastructure was not a destination for social use because it was not designed with people in mind. However, the space is now an inclusive community space that includes pathways for walking or running and designated areas for gardening or sledding.

To encourage people who designed the space to use it, the City of Fargo offered small grants to community groups to host events at the site. The Commons serves as a hub for activities like city-wide Welcoming Week, a Nature Adventure hosted by the Parks Department, or events hosted by the Plains Art Museum. During an event in which participants built nests with found objects and shared their values of home, family, and comfort, two residents from North and South Sudan both began singing the same folk song about caring for nature. It sparked a cross-cultural connection centered on nature between immigrants from two feuding nations. From this activity, the team has gathered a collection of poems, songs, and stories, and are considering ways to incorporate them into something physical at the Commons.

Critical success factors

- **Established guiding principles.** In 2014, to onboard other technical experts who would execute the community-designed project, Brookner led the project team in defining design principles to guide the work of The Fargo Project. These included: let the water lead; learn from the natural environment; involve the community by creating a sense of belonging; and experience nature and ecology. With so many partners and stakeholders involved, these unwavering principles and Brookner's facilitation helped maintain the focus of the work and guide the development of different elements of the project. These principles continue to be at the center of this collaborative effort, even as new artists and partners have joined the project.
- **Built trust between the artist and city officials.**
The Fargo Project's success is rooted in widespread acceptance of a creative planning approach and receptive city leadership, yet, this took time to cultivate. Fargo city planner and landscape architect Nicole Crutchfield worked to help her colleagues see the value in an artist-led process, and Brookner reached out to city leadership to understand their concerns and gain their trust. With time, city officials saw the benefit of Brookner's process to enable them to reach the community in new ways, build a robust network of partners, and create something that achieves functional, environmental, and social benefits. With this trust and appreciation for the process, city officials gave the project team ample freedom and flexibility to experiment with new ideas and adapt to failures, which was essential during the pilot project phase.

“Because Fargo isn’t exactly known for its progressive arts scene and cutting edge social change, we were skeptical about how an artist-led project would work. It took frequent planning meetings to help partners see the big picture, but over time walls started to come down. Engineers realized that artists weren’t just dreamers, and artists started to see that engineers could be creative, if given the chance.”

—Dwight Mickelson, Artist and Sculptor, The Fargo Project

Outcomes

- **Improved understanding of water, ecology, and the environment.** Because of World Garden Commons, residents are much more aware of the presence of stormwater basins in Fargo and understand their purpose, whereas before they saw them as barren, empty spaces. People have recognized the potential for nature to heal and bring communities together, and the project team has noticed new connections between people and between people and nature that have developed over the course of the project.
- **More arts-inspired community building activities.**
Because the site was designed in such an intentional way, community activities are now taking place that never would have before if artists hadn't been involved in planning The Fargo Project. For example, artists on the project team worked with fifth grade students in West Fargo to design a natural playground, which will be one of the project's major anchors. Other organizations are hosting events and activities at the site, including the Riverkeeper, environmental groups from North Dakota State University, and the Long Spur Prairie Fund, which promotes connected prairies and restoration in the community.

The City of Fargo's Native American Commission held a mini pow-wow at World Garden Commons as part of a series of summer events designed to test how groups interact in the space. *Photo credit: Anita Hoffarth.*



- **Increased creativity in city planning processes.** From a planning and city government perspective, a significant outcome of The Fargo Project is an increase in creative planning processes and the inclusion of artists as key collaborators in the design of civic space. City engineers have embraced a greater range of possibilities as a result of working with artists. Many have discovered their own creative potential through The Fargo Project, and many now bring both an artistic and engineering perspective to their work.

“The project showed both artists and engineers that each are problem solvers who bring different necessary skill-sets to a project. It also helped dispel the misconception that artists are “impractical dreamers,” and that artists of all kinds should be part of planning processes.”

—Dwight Mickelson, Artist and Sculptor, The Fargo Project

Conclusion

The artist-led planning process in Fargo enabled diverse stakeholders to come together to co-create a vision that allowed the basin’s ecosystem to flourish and fostered intercultural connections across diverse residential communities. Because of this community-centered process, residents and businesses now feel ownership of the space and use it for their own purposes, continuing to expand its potential uses. The Fargo Project showed that when cities involve artists early in the planning of a city project, and give them leadership authority, it can lead to a more dynamic project with truly extraordinary outcomes.

“Working with Jackie Brookner as a lead artist and community builder taught us so much about what we were missing in our day to day operations at the City. Even trained as a landscape architect and city planner, where outreach and community engagement is part of my professional discipline, I was brought outside of my comfort zone. The experience taught me that allowing for time and relationships is so important. Those qualities led us to a place of remembering and truly experiencing the essence of why we’re here.”

—Nicole Crutchfield, City Planner, City of Fargo

North Dakota State University Natural Resources Management and Wildlife Society students place rocks and willows to encourage a meander in the stream of water flowing from the inlet pipes. The World Garden Commons is a stormwater basin that briefly holds water up to 24 hours after a rain event. *Photo credit: Amu Productions for The Fargo Project.*



Michael Singer Studio

Unlocking new possibilities for site-specific art, public space, and infrastructure design



Photo credits, top to bottom: Image courtesy of Michael Singer Studio, photo by David Stansbury; Image courtesy of Michael Singer Studio, photo by Edwin Walwisch; Image courtesy of Michael Singer Studio, photo by David Stansbury.

Context

The process of building new water infrastructure can be a challenge. Taxpayers may resist the high upfront cost, preferring cheaper, but ultimately less effective, stopgap measures. Residents may not want new facilities sited nearby because they worry they will be unsightly, noisy, or adversely impact their health and well-being. Local businesses may worry about the negative impacts of long construction periods or having a large structure creating “dead space” nearby. These factors can make it challenging for public leaders to make a successful case to local residents for the capital investment required to ensure safe and reliable water management. These problems can be compounded when development processes are expedited or lack opportunities for public input.

As utilities and public leaders undertake significant investments in water and wastewater infrastructure in the coming decade, many appreciate that there is also an opportunity to simultaneously create benefits for the communities they serve without sacrificing functionality, much of which can be done for marginal additional costs. In fact, by using water infrastructure as a means to improve the quality of places—environmentally, socially, aesthetically, and otherwise—utilities can demonstrate how public resources can go farther and thereby attract a wider range of supporters and advocates for projects.

For decades, utilities have invested in public art, often through required percent for art programs, as a way to add an aesthetic element to infrastructure projects. However, using art as a “decoration on top” of a final facility design does not fully realize the potential of art—and more importantly of *artists*—to help create multi-benefit infrastructure solutions. For the last 30 years, artist Michael Singer and his colleagues at his multi-disciplinary design studio, Michael Singer Studio (MSS), have approached their work in infrastructure development and urban design through an artistic lens. Across their diverse water-related projects—from wastewater treatment facilities to water efficient buildings to infrastructure to mitigate shoreline erosion and storm surges—the artistic tools and process they use enabled them to help public agencies and organizations envision and create solutions that push past the status quo. This approach has informed public sector leaders as they increasingly seek solutions that address the complex water challenges that they face today in a way that provides multiple benefits.

“We want to engage in a process to uncover the goals, the problems, what you think can’t work. Then, our challenge is to figure out how to make it work. As artists we are able to challenge the instinctive ‘no, we can’t do that’ response of many developers and engineers by showing how we might be able to do it. Sometimes the client comes back and says, ‘you’re right, maybe we can do that.’”

—Michael Singer, Artist and Principal Designer, Michael Singer Studio

Approach

MSS is driven by the vision of its founder Michael Singer, an artist, landscape architect, and designer, who works collaboratively with ecologists, anthropologists, architects, engineers, and other professionals on a range of infrastructure design and planning projects. While MSS’s finished projects are aesthetically beautiful and publicly engaging, they emphasize that the outwardly visible outcomes are only one dimension of how the artistic process can benefit infrastructure projects.

The most important benefit, Studio Partner Jason Bregman argues, is that the artistic approach to inquiry and idea generation helps them—and the collaborative teams of engineers, planners, ecologists, and more—see problems and possibilities differently than if they used traditional planning or design methodologies. As a result of the artistic methods and tools they bring to projects, MSS helps uncover solutions, some of which at first seemed outside of the realm of possibility, that accomplish more than one goal. This perspective informs not only how a project looks and feels aesthetically, but also how it meets its infrastructural and environmental goals. These collaborative design solutions often help reduce project costs (i.e. sculpting a project to balance cut and fill), have a long-term payback period (i.e. rainwater harvesting), or provide benefits that improve community relations and reduce costly litigation.

“Our work focuses on the creation of artwork as infrastructure—the work itself improves water or soil quality, enhances the function of a piece of infrastructure, or shapes the restoration of an ecosystem. This is qualitatively and quantitatively different than works of art that primarily communicate ideas, engage with the public, and/or add art as a secondary program.”

—Jason Bregman, Partner, Michael Singer Studio

Many of MSS’s projects involve water, and in each project, artwork performs key functions such as improving water quality, storing water and reducing potable water demand, or regenerating ecosystems. For example, MSS was approached by the Seminole tribe in Florida who needed to comply with a local percent for art ordinance for their new casino parking garage in Coconut Creek, FL. During the design process, MSS identified that the retention ponds around the site were nutrient-loaded and saw this as an opportunity to solve the challenge through a work of art. MSS provided the tribe a range of solutions that went beyond compliance with the percent for art requirement, but one that was aesthetically pleasing, culturally relevant, and addressed the retention pond issue as well.

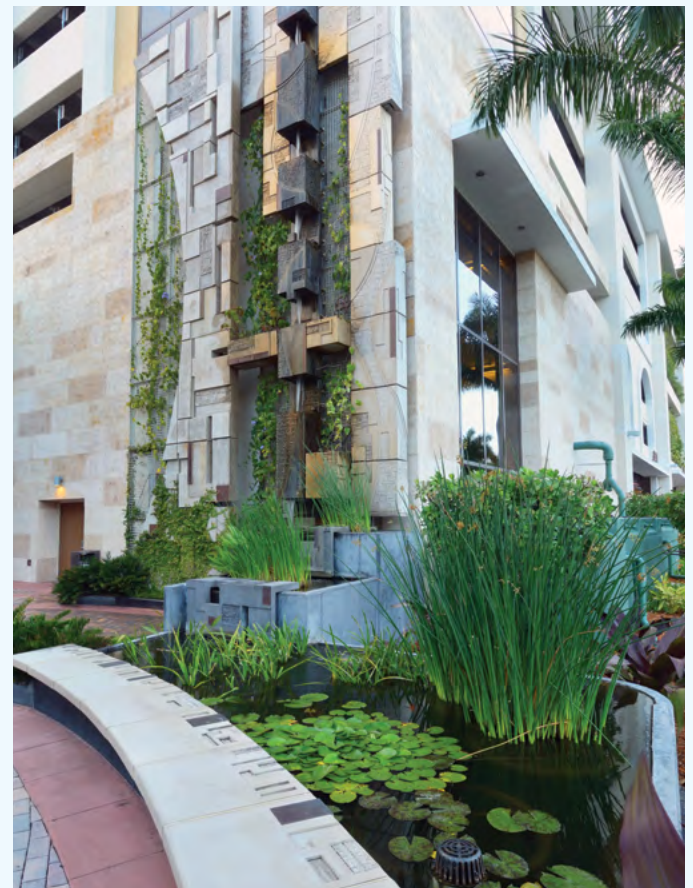
The resulting Sculptural Biofiltration Wall was conceived as a living system designed to regenerate the surrounding environment by improving water quality, enhancing habitat viability, as well as informing and inspiring the public about ecological systems. Financially, the tribe saves at least \$12,000 per year from the solar arrays, and in time, this project will pay for itself. Completed in 2012, the project filters approximately 150,000 gallons of water a day through mechanical and biological systems, improving the water quality of the adjacent retention ponds. The tribe embraced the sculpture enthusiastically, and this sense of ownership ensures the feature is well-maintained. This environmentally-functional sculpture educates the public about its purpose, while simultaneously creating a pleasing public space. This reveals the potential of working with artists as collaborators and thought partners on all parts of an infrastructure project, not simply aesthetics.

“We wanted to set the standard and have something we and the city could be proud of. Instead of a big giant box you park cars in, it’s a nice space.”

—Steve Bonner, General Manager, Seminole Casino Coconut Creek⁴²

Often artists are brought in at the end of an infrastructure development process to figure out how to mitigate negative public impressions. This was the situation with a new solid waste transfer and recycling facility in Phoenix. At the time, the Phoenix public works director worried that there would be public resistance to the facility. However, he believed that facilities that provide essential public services should not be “out of sight, out of mind,” and that they needed to be better understood and valued by the public. Even though the design had already been completed, MSS and artist Linnea Glatt were hired to design public art at the site as a way to secure the community’s support for the project. MSS and Glatt advised that a decorative add-on would be insufficient to gain community buy-in or authentically educate people on the value of the facility and instead advocated for a more extensive scope to redesign the existing building facility.

The Sculptural Biofiltration Wall in Coconut Creek, FL achieves multiple economic, environmental, and aesthetic benefits for the Seminole tribe. Image courtesy of Michael Singer Studio. Photo credit: David Stansbury.



With the support of the public works director, the artists and their collaborative design team reconfigured the entire facility to improve access and odor control, balance the landscape cut and fill, introduce native ecologies, integrate public spaces and viewing areas, and redesign the facility structure to be more visually compelling and improve the internal facility's functions and flexibility for operations. Although the developer worried about the cost of letting the artists re-design the site, it ended up costing \$4.5 million less than the original design. The building is one of the first pieces of infrastructure in the US to have public tour facilities built into the design and the agency has opened up the facility to make it visually engaging and a symbol of environmental sustainability and civic pride. It was named as one of the most significant designs of 1993 by New York Times art critic Herbert Muchamp, who wrote, "Though we can't live without it, we'd prefer not to live with it. We don't want to see the 'dirty work' infrastructure performs. Phoenix's waste management facility is a fulfillment of Mr. Jensen's dream to turn "nimby" (Not in My Back Yard) into "yimby" (Yes, in My Back Yard)."⁴³

"As we climbed up the steps [of the facility]...the mayor kind of whispered to me, 'where's the art?' And I had to say, 'it's the whole thing, mayor.'"

—Ron Jensen, Director of Public Works, City of Phoenix⁴⁴

The South Cove Regeneration Project revitalizes the aquatic ecosystem in the South Cove of West Palm Beach, FL. Image courtesy of Palm Beach County Department of Environmental Resources Management.



Critical success factors

- Artists as equal partners at the design table.** The role that artists can play in infrastructure development goes far beyond putting aesthetic touches on a finished design, or creating a piece of public art. When brought in early as collaborators with scientists, engineers, and planners on multiple dimensions of a project, artistic perspectives and processes can inspire new ideas and generate solutions to a wide range of challenges—on social, ecological, and infrastructural levels. To facilitate this, partnering agencies used the RFP process as a mechanism for integrating MSS as core members of the team and ensuring they are engaged in as many facets of the project as possible.
- Investment in a process, not only a product.** Getting the most benefit from working with artists requires investing in a process of collaborative discovery and experimentation, not simply a pre-determined piece. This kind of process requires a leap of faith on the part of engineers, developers, financiers, and planners, who tend to be risk averse and may be accustomed to seeing what they will get before they decide to buy it. By being open to this, MSS clients received innovative solutions that were in direct response to the conditions and needs of the specific site, facility function, environmental systems, and community concerns, and could not have been proposed in advance with little understanding of project context and systems.
- Liaisons within institutions to champion an artistic approach.** Getting public agencies to welcome artists to the design table, agree to an open-ended artistic inquiry process, or try unconventional solutions can be a challenge, even for an artist with Michael Singer's track record and reputation. Often the success of an artistic infrastructure project depends on having someone in a position of institutional power—in city government, on the developer team, or a utility—who understands the value of the artistic process and is willing to advocate for the artist and artistic elements throughout the infrastructure process. These advocates are invaluable to ensuring that artistic elements and solutions are not cut later down the line, either inadvertently or in a misguided effort to save costs.

Outcomes

- **Solutions that provide aesthetic and environmental benefits.** As a result of their holistic and creative approach to art as infrastructure, MSS was able to find design solutions that fulfilled both aesthetic and ecological purposes at the same time. The Seminole living sculptural wall uses solar power to filter 150,000 gallons of water a day from water retention ponds, improving local and ultimately regional water quality. The artistic approach to considering the site as a whole allows them to break down silos, enabling project team members to see beyond their own role, to come up with out-of-the-box ideas that may not have been possible otherwise.
- **Return on investment for clients.** Although having an artist participate in the full planning and design process may cost more up front, MSS's work shows how an artistic approach can actually save both capital and operating costs. For the Phoenix recycling facility, the artists' final design was more innovative, engaging, and aesthetically-pleasing than the original "box" design, and ended up costing \$2 million less to build. Even when the artistic approach happened to cost more—as in one case where the 22 ideas proposed by the MSS team added up to \$12 million—the developer noted that the artists' proposal was equivalent to "a small change order in our construction costs" for the \$700 million project, in exchange for extensive benefits in terms of water conservation, energy generation, public education, aesthetics, and more.

The 27th Avenue Solid Waste Transfer and Recycling Center in Phoenix, AZ. Image courtesy of Michael Singer Studio. Commissioned by the Phoenix Arts Commission. Photo credit: David Stansbury.



- **Creating a model for infrastructure as a community asset.** MSS's work shows that thinking about next generation water infrastructure as multi-functional art can ensure that these necessary investments serve communities on multiple levels and are welcomed elements of the civic landscape. Instead of a simple utilitarian parking lot they wished to hide, the beautiful and ecologically beneficial Seminole sculptural wall became something the community celebrated and used to define itself to outsiders. Instead of being another hidden waste transfer facility, the design of the Phoenix facility's viewing arcade, classroom/research area, offices, and grounds communicated that it was a space for the community, and enabled people to learn about the facility's purpose. As a result, instead of triggering community resistance, the facility became a symbol of pride and attracted national attention as a model for what infrastructure could be.

"In the early 20th century, people wanted these kinds of facilities (water, wastewater treatment, etc.). Now, people fight them. A big challenge is how to reconnect people not only with pristine places like reservoirs, but also the facilities that do the work."

—**Ramon Cruz**, International Policy Program Director,
Institute for Transportation and Development Policy

Conclusion

The work of Michael Singer Studio demonstrates the triple bottom line—social, environmental, and economical—benefits of working with artists as collaborators on infrastructure projects. The investments required to upgrade our water infrastructure are substantial, but they also offer valuable opportunities to imagine a new generation of infrastructure that not only serves essential water management functions, but also creates vital public spaces and symbols of civic identity, while proudly demonstrating environmental stewardship.

National Tribal Water Center | Water is Life

Celebrating the role of water in tribal culture



Photo credits, top to bottom: James Temte; Todd Henry; James Temte.

Context

Water is essential to the economic, spiritual, and economic lives of Native nations. Some tribal governments own their water systems—collecting, treating, and managing the drinking water that comes to homes and businesses, and the wastewater that is treated and returned to the environment. In other cases, Native American communities receive water service from a nearby utility. Funding and oversight for tribal water systems comes from the US federal government rather than from the state or local level, like most other US communities. However, funding from the Drinking Water State Revolving Loan Fund program is significantly lower for tribes than states. This makes accessing adequate funding for maintaining and managing tribal water systems difficult.

Many Native American communities across the US face water challenges, both on and off the reservation. Forced relocations pushed many tribes to land with poor water quality, and for some communities, water resources have been further threatened by the discriminatory siting of polluting industries nearby. These communities are mostly rural, and like many rural communities in America, they often do not have the economies of scale necessary to fund maintenance or improvements of aging and inadequate water infrastructure to improve water conditions. This can have ripple effects. For example, insufficient water infrastructure capacity can make it difficult to build adequate housing. In addition, rural communities are often located far from the materials, resources, training opportunities, and technical support they need to improve system operation and sustainability. All of these factors have exacerbated significant water concerns in Native nations.

To strengthen the water systems that Native American communities rely upon, the National Tribal Water Center (NTWC), housed at the Alaska Native Tribal Health Consortium, works to protect water culture, preserve water resources, and prepare future generations to manage vital water systems. Specifically, the NTWC helps tribes across the US establish safe and sustainable water service through environmental health education and research, engineering consultation, and operation and maintenance services.

Through their work, the National Tribal Water Center has found that the role of art and tribal culture is essential to redesigning systems, changing behaviors, and fostering

a more sustainable water future for native communities. In 2015, they launched the Water is Life program to inspire communities to protect and ensure safe water sources, conserve water, and promote tribal pride and stewardship of community water systems.

Our Water Toolkit

The National Tribal Water Center hosts an online [Our Water Toolkit](#) to connect tribes with resources such as educational materials, fact sheets, formative assessment guides, behavior change guides, water system management models, and examples of good tribal water system ordinances and policies. The toolkit has been valuable in connecting tribes with each other and other organizations doing work within tribal water systems to facilitate peer-to-peer sharing or offer training opportunities and technical support.

Project

The Water is Life program was developed by the National Tribal Water Center to improve the sustainability of tribal water infrastructure by increasing customer satisfaction and trust in water systems, improving financial planning and billing, and improving tribal relationships with utility operators. The program also aims to change behaviors around water use by making the connection to traditional tribal values and culture. Because achieving these goals depends on community participation and stewardship, the project uses art, education, and cultural celebrations to cultivate a strong water ethic among tribal members.

Water is Life projects begin with a tribal community's desire to change something about local water use, quality, or access. With funding from the program, local project teams comprised of tribal community leaders, utility representatives, and local artists engage community members broadly in a process of creating a vision for the project. During the visioning meetings, community members generate ideas, stories, and photos representing their connection to water. Together, artists and local residents create an artistic representation of what water means to them. Sometimes this takes the shape of public art, other times it involves storytelling, water walks, or celebrations with elders as culture bearers. In one Water is Life project, local artists and community leaders

developed a cultural celebration called Water Week featuring water games, kid's art activities, and elder and youth storytelling events.

“Combining water and sewer improvement projects with artwork, or something that attracts the attention of the community, is critical—because otherwise, the community doesn’t see the progress of the work we’re doing.”

—John Nichols, Rural Utility Management Services
Director, Alaska Rural Utility Collaborative

Water is Life often works with the Alaska Rural Utility Collaborative (ARUC), a statewide program that partners with communities to manage, operate, and maintain water and sewer systems in rural Alaska. ARUC focuses on assisting communities struggling financially and operationally in order to improve their service delivery, infrastructure lifespan, and financial outlook. In a number of cases, ARUC has turned to Water is Life to spark change in the communities they work with.

For example, the water and sewer utility in the city of Russian Mission, AK was struggling to correct a history of poor water quality and financial and operational inefficiencies. Because of the poor water quality, households were reluctant to pay their water bills, and, as a result, the utility was operating with a debt of \$42,000. At the time that ARUC was brought in, only 32 percent of residents were paying their bills—far lower than the average of 95–97 percent in other nearby communities. The dual challenge of poor water quality and billing delinquencies were mutually reinforcing.

“The inspiration to create the Water is Life project was born out of a love for public art, water, community and culture. I love this project as it creates a platform for indigenous communities to celebrate our connection to water. The murals can help carry forward stories, priorities, and traditions as well as, to help build community pride and ownership of our resources.”

—James Temte, Member of the Northern Cheyenne
Tribe, Artist, and Director, National Tribal Water Center

ARUC first undertook capital projects designed to improve the levels of water service in Russian Mission. However, in addition to investing in infrastructure and operations, ARUC also knew that they had to engage with the community in a more constructive and collaborative manner than the past. ARUC partnered with Water is Life,

community leaders, and artists to create something to visually display the change in how the water system would be managed and to spark conversation about the value of water to the community. Through art and community events, such as murals and youth art projects, utility representatives were better able to engage with residents, share information about the improvement projects underway, and build trusting relationships.

Within a few months of Water is Life, homeowners were inviting utility representatives into their homes to both change out copper piping and install external shutoff valves, indicating that residents understood the improvements in their system and were willing to pay, translating to improved collection rates and increased revenues. Water is Life has had similar success in other communities, such as Deering, AK. With ARUC and the City of Deering, Water is Life coordinated community mural painting on water storage tanks. The mural creation process was used as a way to convene community dialogues on the cultural value of water and the planned system improvements, which again translated to more amicable relationships between the community and the utility, and increases in water bill collection rates.

“Water is such an important part of all life and is revered and sacred to all native peoples. The National Tribal Water Center assessed the problems at the water plant and came back to Fort Belknap and fixed the problems—some at their own expense because of their concern for our safety. They have given the Fort Belknap community new hope in our water system and we now know the water is safe to drink. How do you repay individuals who have given so freely of themselves for the benefit of others? This is how our ancestors believed—you did things for the benefit of the whole community.”

—Ina Nez Perce, Tribal Member and Environmental
Manager, Fort Belknap Indian Community

Critical success factors

- **Honoring local culture.** Culture is a significant source of pride in tribal communities, and most native cultures have deeply embedded values around water. By making the connection between the management of drinking water and wastewater to traditional cultural values around water, Water is Life helps change the way the community values its water systems. Involving elders

and respected cultural leaders also elevates the importance of water management in the community.

- **Letting communities lead.** All Water is Life projects are self-initiated by a team of customers, local leaders, or water utilities that have a need or desire to improve some component of water system management, operation, or use. While it is important to have utility and tribal leadership involved, the vision for the project must be driven by the community itself with National Tribal Water Center providing resources and support. When people in the community have ownership over the vision, it increases participation and the lifespan of a project.

“As engineers, we’re trained to take a large problem, break it down into small steps, essentially ignoring the human component. We need people with skills different from us. Water is Life gave us the platform to partner with arts and cultural leaders to do that.”

—John Nichols, Rural Utility Management Services
Director, Alaska Rural Utility Collaborative

Outcomes

- **Growing customer satisfaction of local water and sewer services.** In Deering, surveys revealed an increase in satisfaction of the water system from eight percent before the Water is Life partnership, to 46 percent after. Part of this is a result of building relationships and trust between local residents and the people who are operating and managing the system. Utility leaders reported that education alone was not enough to communicate improvements in the water system, but using art to show people in creative, visual, and emotional ways helped people see the positive change to their system.
- **Changing how residents value water.** Utilities in both Russian Mission and Deering saw a significant change in residential bill collection rates after they partnered with Water is Life. The arts-driven activities served as a way to convene residents and engineers to discuss the value of the local water systems and the improvements that had been made, which directly translated to an increase in residents paying their bills. The residential collection in Russian Mission grew from 32 percent to 89 percent after one year. In Deering, collection rates went from 81 percent to 108 percent, accounting for a number of residents paying down overdue bills.

- **Providing a significant return on investment for the utilities.** Water and sewer utilities, especially in isolated and rural areas, are often financially constrained. When making costly infrastructure investments, it can be difficult to make the case for arts, culture, or community engagement initiatives. Water is Life demonstrates the return on investment from these efforts. In Russian Mission, the utility’s debt went from over \$44,000 to having reserves of \$130,000 within one year of the Water is Life project. During that time, Russian Mission residents also voted to have \$50,000 of sales tax revenue applied as a water and sewer subsidy in order for residential water and sewer rates to be decreased. This demonstrates that using arts and culture to bring the value of water to life can yield significant returns.

Conclusion

Whether the goal is to improve the sustainability of local water infrastructure, increase customer satisfaction and trust in water systems, improve financial planning or billing, or build relationships between utilities and the community, the Water is Life program utilizes arts and culture to connect communities to the value of water and inspire behavior change that ultimately benefits community health and water system sustainability.

Members of the Northern Cheyenne Tribe at a Visioning Meeting. *Photo credit: James Temte.*



San Francisco Public Utilities Commission

Aligning public art allocations with utility priorities to transform people and place



Photo credits, top to bottom: Robin Scheswohl; San Francisco Arts Commission; Illustrations by Norie Sato, sponsored by SFPUC.

Context

In 1969, the City and County of San Francisco passed a local Art Enrichment Ordinance requiring all city agencies to set aside two percent of gross estimated construction costs of above-ground public projects to support arts enrichment in San Francisco. Administered by the San Francisco Arts Commission (SFAC), the funds support public art throughout the city.

The San Francisco Public Utilities Commission (SFPUC) is the department that provides drinking water, wastewater, and power services in San Francisco and three Bay Area counties. The SFPUC is also the first public utility in the country to adopt an Environmental Justice Policy (2009) and Community Benefits Policy (2011).

Given the SFPUC's billions of dollars in capital projects, it makes significant contributions to public art in San Francisco. A critical component of how the SFPUC has been implementing the Community Benefits policy is to align their arts funding with the needs and priorities of neighborhoods most impacted by their operations.

Perhaps the neighborhood in San Francisco most impacted by the SFPUC's operations is Bayview-Hunters Point, a historically African-American community with a rich cultural history. The local unemployment rate is more than three times the citywide average, and nearly half of all residents live below 200 percent of the federal poverty line.

It is also home to the SFPUC's Southeast Treatment Plant, which manages 80 percent of the city's wastewater. Recognizing that the plant disproportionately impacts the community, the SFPUC has been working to mitigate these impacts and find ways to address the neighborhood's concerns. In 2012, the utility embarked on a \$2 billion capital improvement project at the treatment plant. This presented a significant opportunity to leverage this investment to create a lasting and transformative impact in the neighborhood. Arts and culture has a significant role to play in creating a place of destination, enhancing not only the aesthetics of the infrastructure but the community's connection to the space.

"Art is an important asset in the Bayview because it enlivens the neighborhood and increases foot traffic, which supports the local economy and public safety. The SFPUC's community engagement work is vital to ensure its public artwork is culturally relevant and authentically illustrates the rich culture and history of the Bayview."

—Tyra Fennell, Co-Founder & Executive Director,
ImprintCity

Approach

The SFPUC's rebuild of the treatment plant in the Bayview will generate roughly \$12 million for public art. The SFPUC, in partnership with the San Francisco Arts Commission, is working to create an Arts Master Plan for the neighborhood to align arts with the community's interests and the agency's goals.

"As we upgrade our city's aging sewer system and other facilities through our Sewer System Improvement Program, we are supporting the creation of public art that adds value to the lives of Bayview residents. Art can help transform San Francisco's largest wastewater treatment plant into a world class resource recovery facility, a city destination, a proud neighborhood asset, and an attractive workplace."

—Harlan L. Kelly Jr., General Manager, San Francisco
Public Utilities Commission

Connecting public art with people, place, and utility function is itself an exercise in extensive coordination. Understanding this, the SFPUC first operationalized its Community Benefits approach to public art by creating an Arts and Education Manager position within the utility. This position coordinates internally and externally, across the SFPUC's three core divisions, the seven counties the agency serves, the SFAC, and the arts community. Because the Arts and Education Manager is fluent in the languages of art, utility engineering, the utility's community benefit priorities, and authentic stakeholder engagement, this position is able to identify opportunities and advocate for the incorporation of arts into the planning, design, and building of major capital projects.

“Good public art connects to community and gives voice to neighborhood residents. The SFAC’s partnership with the SFPUC has enabled deep engagement with the Bayview neighborhood, helping to ensure that the artwork tells a story that resonates with community members and is a source of community pride.”

—Tom DeCaigny, Director of Cultural Affairs, San Francisco Arts Commission

With a permanent liaison in place, the SFPUC then embarked on a six-month community engagement process with SFAC. Together, the agencies hosted a number of events, ranging from one-on-one interviews to focus groups, to gather input from over a hundred community members and stakeholders on their needs and interests regarding public art in the community. With this input, the SFPUC and SFAC will author an Arts Master Plan that will combine the community’s interests in art that reflect the stories, values, and contributions of individuals who live in the neighborhood with the SFPUC’s priorities of inspiring environmental stewardship. The Bayview Arts Master Plan will guide the SFPUC’s investment in art enrichment in the Bayview over the next 20 years by providing a curatorial framework, identifying art opportunities and locations, and identifying professional development and educational opportunities related to the art program.

One of the most significant takeaways from the community conversations was the importance of local artists and local benefit. This includes not only highlighting the work of artists with a meaningful connection to the Bayview but also connecting artists with local fabricators and

suppliers, providing opportunities for local artists who are new to public art, and creating opportunities for youth engagement. There was also reverberating feedback that neighbors want artwork that is visible and interactive within the community.

“The Bayview Arts Master Plan will provide a comprehensive roadmap that will ensure the SFPUC’s arts investments achieve multiple goals that have been informed directly by the local community.”

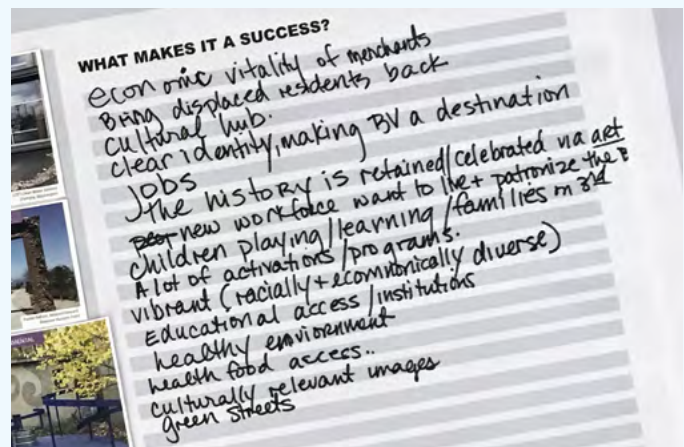
—Juliet Ellis, Chief Strategy Officer and Assistant General Manager, External Affairs, SFPUC

While the Arts Master Plan is still in development, the first artwork commissioned for the new Southeast Treatment Plant is aligned with both the interests of the community as well as the SFPUC. The SFPUC partnered with the SFAC to commission artist Norie Sato to work alongside architects and engineers of the Headworks Facility, where wastewater enters the plant. Sato conducted interviews with senior leadership and project engineers, visited the site to understand the function of the facility, and facilitated conversations with the community. Sato proposed an artwork design that combined agency and community interests while simultaneously celebrating the SFPUC’s environmental mission. The design includes a monumental, street-facing art wall spanning 350 feet in length and 35 feet in height depicting an abstract and undulating gyre constructed from stainless steel. The wall is permeable; visitors can peer into the vortices to glimpse at the massive infrastructure behind the fence. Reflective ground-level elements allow the viewer to literally see themselves inside the resource recovery process.

Charrette participant Tyra Fennell participating in a visioning exercise at the Bayview Art Masterplan Charrette in February 2018 at the SFPUC’s Southeast Community Facility. Photo credit: San Francisco Public Utilities Commission.



Participants in the Bayview Arts Masterplan Charrette envision success for the SFPUC’s investment in public art and how the San Francisco Chronicle would describe the neighborhood 20 years from now. Photo credit: San Francisco Public Utilities Commission.



Critical success factors

- **Municipally-backed policies that drive resources to the arts.** For the SFPUC and SFAC, policies at the municipal level (two percent for arts policy) and at the agency level (community benefits and environmental justice policies) have been a driving force behind the ability to staff, resource, and prioritize these efforts. This has been especially important for justifying dedicating the utility's resources to these projects and programs.
- **Dedicated arts staff person within the utility to facilitate cross-agency collaboration.** The Arts and Education Manager has enabled the SFPUC to better partner with SFAC and the arts community and identify opportunities for the utility to integrate art and artists into its work.
- **Involvement of senior leadership.** Having executive leadership at the SFPUC consistently communicating the importance of arts and culture to achieving the utility's mission elevated the status of the initiative and helped make the case with other stakeholders. The SFPUC and the SFAC also kept their commissioners and the city's Board of Supervisors informed of this work, helping the political leadership in San Francisco understand how arts and culture investments could advance water utility priorities and foster thriving neighborhoods.

Outcomes

- **Leveraging percent for arts programs for creative placemaking and creative placekeeping.** Percent for arts programs are valuable because they create revenue streams to promote art in communities. The collaboration between the SFPUC and the SFAC is an example of how these programs can be more intentional, innovative, and responsive to community needs.
- **Creating a model for other city agencies.** Rather than folding arts and culture into its public outreach division, the SFPUC has a specific program area for arts, culture, and education. This unique program area, with a dedicated staff, has grabbed the attention of other government agencies across the city and the country. The SFAC has specifically been working with other agencies like the San Francisco Planning Department

and the Office of Economic and Workforce Development to establish more formalized relationships to facilitate this work.

- **Developing tools to enable creative placemaking and creative placekeeping in the Bayview-Hunters Point neighborhood.** The collaboration between the SFPUC and SFAC revealed the need to better connect local artists with public art opportunities coming online through the 20-year Bayview Arts Master Plan. To bridge this gap in the Bayview-Hunters Point neighborhood specifically, the SFPUC and SFAC partnered with local arts professionals to create a registry of local artists with a meaningful connection to the neighborhood and a practice that includes community engagement and design. The agencies and local nonprofit partners also provided workshops, hosted a mixer for local artists, and provided one-on-one technical assistance to help artists with submitting their applications online. As opportunities arise to incorporate art and artists into the significant construction in the Bayview, the SFPUC will use the registry to alert and commission artists. The SFAC has been an important partner in sharing this opportunity and database with the local arts community, and 297 artists have already joined.

Conclusion

An integrated, community benefits approach to place-based public art requires significant planning and coordination and a dedicated liaison for large agencies like the SFPUC. By forging a nexus between community needs and agency priorities, the SFPUC is investing in public art that makes visible the hidden public infrastructure necessary for life in San Francisco and weaving it into the fabric of the community. By leveraging the city's requirement to spend two percent of above-ground construction on public art and aligning this investment with the utility's environmental mission and authentic community engagement, the SFPUC and SFAC are illustrating what is possible when a public utility is dedicated to being a good neighbor.

The Trust for Public Land

Creative placemaking to build climate-resilient cities



Photo credits: Sabree Hill for iSeeChange and Studio in the Woods.

Context

Eighty percent of the US population lives in cities, and, increasingly, those cities are facing the effects of a changing climate. Rising sea levels, flooding, and intensifying heat waves are placing significant stress on cities across the country. While climate change affects everyone, in cities, low-income communities tend to have fewer resources to adapt.

Climate challenges operate at a vast scale, are deeply interconnected, and therefore cannot be addressed by any one person or single organization. Resilience requires experts who can solve specific climate challenges, but also people who understand their environment, feel empowered to make changes on the ground, and have a voice in the adaptation process.

Parks and open spaces can be an important community lever for climate mitigation and adaptation. They lower carbon emissions, minimize the impacts of flooding from major storm events, and cool urban air, which can reduce indoor temperatures by up to ten percent. In addition, parks can boost awareness of environmental challenges and provide social space to foster cohesion amongst residents. However, low-income communities in urban areas disproportionately lack parks and green space in their neighborhoods.

To address this, the Trust for Public Land (TPL) invests in parks to connect communities to open space, absorb stormwater runoff, cool urban areas, and recharge drinking water aquifers. Through their Climate-Smart Cities program, TPL has been working to make vulnerable communities in 20 different cities more equitable, livable, and resilient to the effects of climate change.

While the Climate-Smart Cities program has made significant gains in making cities greener, for these spaces to truly succeed in building community resilience, they have to reflect and engage the communities they serve. TPL's Parks for People initiative uses creative placemaking and community-based processes to infuse arts and culture into the parks they build. This work is being piloted in three places: New Orleans, LA; Richmond, CA; and Philadelphia, PA.

Project

New Orleans is one of the most climate-vulnerable cities in the US and the third wettest, receiving more than five feet of rainfall each year.⁴⁵ While the city's impressive system of 260 miles of canals with 24 drainage pumping stations featuring 121 pumps has the capacity to manage one inch of rain over the first hour of rainfall, the city relies heavily on green infrastructure assets to reduce flooding.⁴⁶ By retaining water where it lands, green infrastructure helps recharge the shallow groundwater reserves and helps stabilize soils, thereby reducing subsidence. The need for green infrastructure, coupled with strong leadership from city government and community partners and a rich local culture, made New Orleans an ideal place to pilot a Climate-Smart Cities project using a creative placemaking approach.

The goal was to engage residents across the city to develop innovative approaches to green space in the communities that needed it most, and in a culturally competent way. TPL began by creating a Technical Advisory Team, comprised of diverse partners from community groups, city commissions, and other stakeholder groups.

The Technical Advisory Team leveraged their expertise in climate change, arts, and health, to develop a decision support tool using GIS data in innovative ways. The tool integrates environmental, social, and cultural data for the entire city and helps city departments make more efficient and culturally appropriate investments.

An early project guided by the GIS tool was the design and construction of a green infrastructure schoolyard at the Paul Habans Charter School in the Algiers neighborhood. The GIS tool highlighted this location as a low-income, park-poor neighborhood prone to flooding and elevated summer temperatures. Through a student-led participatory design session, the project team was able to deliver a high-quality schoolyard with extensive rain gardens and native tree plantings as well as play structures and educational amenities. The schoolyard now manages the first 1.25 inches of stormwater that falls during a rain event⁴⁷ and deploys TPL's "Sewer in a Suitcase," an arts-based educational toolkit that teaches students about how the urban environment affects stormwater runoff, sewage flow, and water quality.⁴⁸ This success sparked an even bigger vision for a network of green infrastructure schoolyards and sustainable funding and a template for the Recovery School District's ambitious capital plan.

Based on this project, the Advisory Team decided that it was most strategic to focus not at the city or park scale, but at the neighborhood scale. The Gentilly neighborhood, home to New Orleans' first Resilience District, was the perfect place to start. The Gentilly Resilience District is a consortium of efforts to address pressing environmental and social challenges in the area through coordinating approaches to water and land management. It is backed by US Department of Housing and Urban Development National Disaster Resilience Competition funding.

“We recognized that, to work effectively, cultural resilience needed both technical solutions to address the impact of water on New Orleans and it needed the power of narrative and place. We never expected to discover so many wonderful outcomes that will transform our work in the future.”

—**Matthew Clarke**, Director of Creative Placemaking,
The Trust for Public Land

TPL and their team of partners joined the efforts to install green infrastructure in Gentilly. They used their GIS tool to zero-in on the places within the district facing the most acute challenges from stormwater flooding and heat island effects, and where their work could generate the most community benefit. TPL then partnered with iSeeChange, a national media and cultural organization focused on leveraging citizen science and storytelling to impact climate change. This partnership was established to investigate flooding at the neighborhood scale as it is experienced and told by local residents. iSeeChange engaged residents of the district in a citizen science effort to track rainfall and associated flood patterns by measuring with rain gauges and observing with photo and video evidence. Simultaneously, iSeeChange collected stories and soundbites of local people's experience with flooding. After collecting the quantitative and qualitative data, the Advisory Team, iSeeChange, and the local citizen scientists co-hosted block parties and other cultural events to connect the rest of the community to the proposed projects. This was the first time that residents and civic leaders came together in this way.

The capstone event for the project was a community storytelling event in January 2018, where residents shared their stories alongside government officials from the Sewerage and Water Board of New Orleans. The event called “Pipe Dreams: Our Flooding Visions and Nightmares” gave public officials a first-person understanding of how people could not get to work, developed asthma, or suffered irreparable damage to their homes because of localized flooding. It also was perhaps the first time that residents heard from officials how difficult it was to develop policies around flood control. Unlike typical community engagement events hosted by government agencies, this was simply an opportunity to tell and listen to stories, which reduced the power dynamics between the city and community members. In the end, these projects informed the location of and community participation in green infrastructure installations in the Gentilly Resilience District.

“Too often, conversations about complex issues, such as adapting a neighborhood to the impacts of climate change, are dominated by those with technical expertise and those in traditional positions of power. In New Orleans, we sought to address this imbalance, by giving rise to and amplifying, in shared space, the voices and stories of those who experience these impacts in their front yards.”

—**Lida Aljabar**, Climate-Smart Cities Program Manager,
The Trust for Public Land

The “Pipe Dreams” storytelling event brought together elected officials and residents to talk about their water stories in New Orleans, LA.

Photo credit: Sabree Hill for iSeeChange and Studio in the Woods.



Critical success factors

- **Community-centered engagement.** The meaningful involvement of the community makes this work more effective and longer lasting. By keeping community central to the purpose and process of their work in New Orleans, The Trust for Public Land was able to connect with people on their terms and bring them into the process of determining how and where green infrastructure can have multiple benefits. The rich storytelling and festival tradition of New Orleans was successfully activated as part of the process.
- **Diverse and equitable partnerships.** The New Orleans project was successful because of the strong support of the local government, funding from state and local agencies, willing community advocates, and smart program partners. Using art and storytelling to put decision makers and residents on equal footing created more equity in community forums and helped form more trusting relationships.

Outcomes

- **Co-creation of triple bottom line climate tools.** Climate change is complex and multi-faceted. Therefore, resilience planning tools need data pulled from more than one source. The GIS tools created by the Technical Advisory Team draw data from multiple sources so they reflect the sum of the environmental, economic, and social and cultural factors that make up a place. Building such a tool with partners not only made the tool more useful, but it forged alliances across stakeholder groups. Artists and cultural leaders led the process in connecting these tools to local residents and as a result, people felt empowered to elevate their own climate stories.
- **Expanded integration of art into other TPL initiatives.** The New Orleans office of the Trust for Public Land has seen how critical the arts can be in supporting its community engagement goals. It believes that engaging the community is key to building resilience. As a result of these successes, the office is looking at embedding an artist in another park in the city and is planning to use participatory design in future schoolyard designs.

- **Breakdown in barriers that prevent dialogue with the community.** The community storytelling event made new connections between residents and public officials. As they shared similar struggles about needing to make tough decisions on a daily basis, and how those decisions related to larger trends about our changing climate, they realized they had more commonalities than differences, and had shared goals. This opened the door for greater communication and collaboration in the future, which is key to community resilience.

Conclusion

Place matters, especially when it comes to the effects of climate change. By integrating arts-driven and community-centered creative placemaking efforts with the climate resilience strategies of the Climate-Smart Cities initiative, the Trust for Public Land and their local partners are helping to equip everyone, whether a government official or a community resident, with the tools to take action.

A resident shares her story at the “Pipe Dreams: Our Flooding Visions & Nightmares” event in New Orleans, LA. *Photo credit: Sabree Hill for iSeeChange and Studio in the Woods.*



About the US Water Alliance

The US Water Alliance advances policies and programs to secure a sustainable water future for all. Our membership includes water providers, public officials, business leaders, environmental organizations, community leaders, policy organizations, and more. A nationally recognized nonprofit organization, the US Water Alliance brings together diverse interests to identify and advance common ground, achievable solutions to our nation's most pressing water challenges. We:

Educate the nation about the true value of water and the need for investment in water systems. Our innovative education and advocacy campaigns, best-in-class communications and media activities, high-impact events, and publications are educating and inspiring the nation about how water is essential and in need of investment.

Accelerate the adoption of One Water policies and programs that manage water resources to advance a better quality of life for all. As an honest broker, we convene diverse interests to identify and advance practical, achievable solutions to our nation's most pressing water challenges. We do this through national dialogues, knowledge building and peer exchange, the development of forward-looking and inclusive water policies and programs, and coalition building.

Celebrate what works and spread innovation in water management. We shine a light on those who engage in groundbreaking work through storytelling, cataloguing and disseminating best practices, and spearheading special recognition programs that focus attention on how water leaders are building stronger communities and a stronger America.

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