

The Seattle Street Sink: Engaging Community while Addressing a Public Health Crisis

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This paper will discuss how the Seattle Street Sink responds to a crisis by building bridges between the design disciplines and the community at large. It outlines strategies for individual and community education and empowerment, and reviews the benefits and pitfalls of government funding, regulation and bureaucracy. And, it will account the risks of entering the fray of public policy discourse regarding one of the most politically divisive issues confronting many fast growing U.S. cities—homelessness.

THE SEATTLE STREET SINK – ENGAGING COMMUNITY WHILE ADDRESSING A PUBLIC HEALTH CRISIS

The goal of the Seattle Street Sink (SSS) is simple and direct—to expand public hygiene facilities in the context of the pandemic. However, the political implications of this goal are complex, divisive and far reaching. This paper will discuss how the Seattle Street Sink responds to a crisis by building bridges between the design disciplines and the community at large. It will outline strategies for individual and community education and empowerment, and review the benefits and pitfalls of government funding, regulation and bureaucracy. And, it will account the risks of entering the fray of public policy discourse regarding one of the most politically divisive issues confronting many fast growing U.S. cities—homelessness.

The Seattle Street Sink is a community-based, bottom-up approach to addressing a public health crisis. (Fig. 1) It began as a response by three design professionals (including two university faculty) to a call for technical assistance by an advocacy organization for people experiencing homelessness. Over the past eighteen months it has expanded, both organically and by design, to include public health experts, non-profit service providers, community and faith-based organizations, graduate students, individual volunteers, businesses, elected officials, City staff and the press. At the same time, the project has shifted from a privately funded enterprise to a largely publically funded one, which has both expanded its potential reach and greatly complicated its efforts.



Figure 1. The Seattle Street Sink, version one. Brice Maryman.

A CITY IN CRISIS

Seattle is the country's eighteenth largest city and has one of the largest populations of people experiencing homelessness in the United States.¹ Washington State instituted the country's first 'Stay at Home' order due to the COVID-19 outbreak on March 25th, 2020. For those without homes, this meant few opportunities to wash one's hands in the, until recently, shuttered libraries, community centers, parks and restaurants that help offset Seattle's inadequate supply of hygiene facilities. In response, the City hired vendors to install temporary mobile hand washing stations and portable restrooms on public property. However, the number and distribution of these stations was and continues to be woefully inadequate to meet the demand for them.²

This led Real Change, a Seattle-based advocacy group for people experiencing homelessness that had persistently lobbied for expanded public hygiene facilities even before the pandemic, to seek design assistance from AIA Seattle's Committee on Homelessness. A team of three consisting of the authors, both architecture faculty in the University of Washington (UW) College of Built Environments, and Brice Maryman, FASLA, a practicing landscape architect, stepped forward to help while Real Change provided \$5,000 in seed funding for parts and materials.

With this funding, the team developed hand washing stations assembled from readily available, off-the-shelf parts with the goal that they be easily replicated by anyone with limited skills using simple tools and the requisite information, and that this information would be easily assessable and open-source. An additional goal was to utilize existing water infrastructure, namely hose bibs located in publicly accessible spaces around the city, and to treat grey water on-site, eliminating the maintenance and cost of the city installed units and others being implemented around the country.

OFF THE SHELF AND OPEN SOURCE

The Seattle Street Sink consists of stock utility sink fitted with a PVC elbow drain pipe, soap dispenser and metering (auto shut-off) faucet connected to a nearby hose bib with a garden hose. (Fig. 2) At \$30, the utility sink is the least expensive, free-standing sink available. It is lightweight, easily transported, and can be assembled by one person in thirty minutes.

Water draining from the sink is a public health concern as a vector for pathogens and a hazard for surrounding water bodies. The design employs proven green stormwater infrastructure (GSI) technologies in a modular stormwater planter consisting of a stock, galvanized steel agricultural feed tank filled with a mix of topsoil, compost and sand. At the bottom of the tank is a drainage system consisting of a slotted PVC pipe wrapped in crushed rock and filter fabric outflowing at the base of the tank. The bio-retention soils remove pollutants and contaminants from the water, allowing clean water to discharge from the stormwater planter's underdrain to adjacent landscapes or city storm drains. Plantings, selected from the City of Seattle's approved

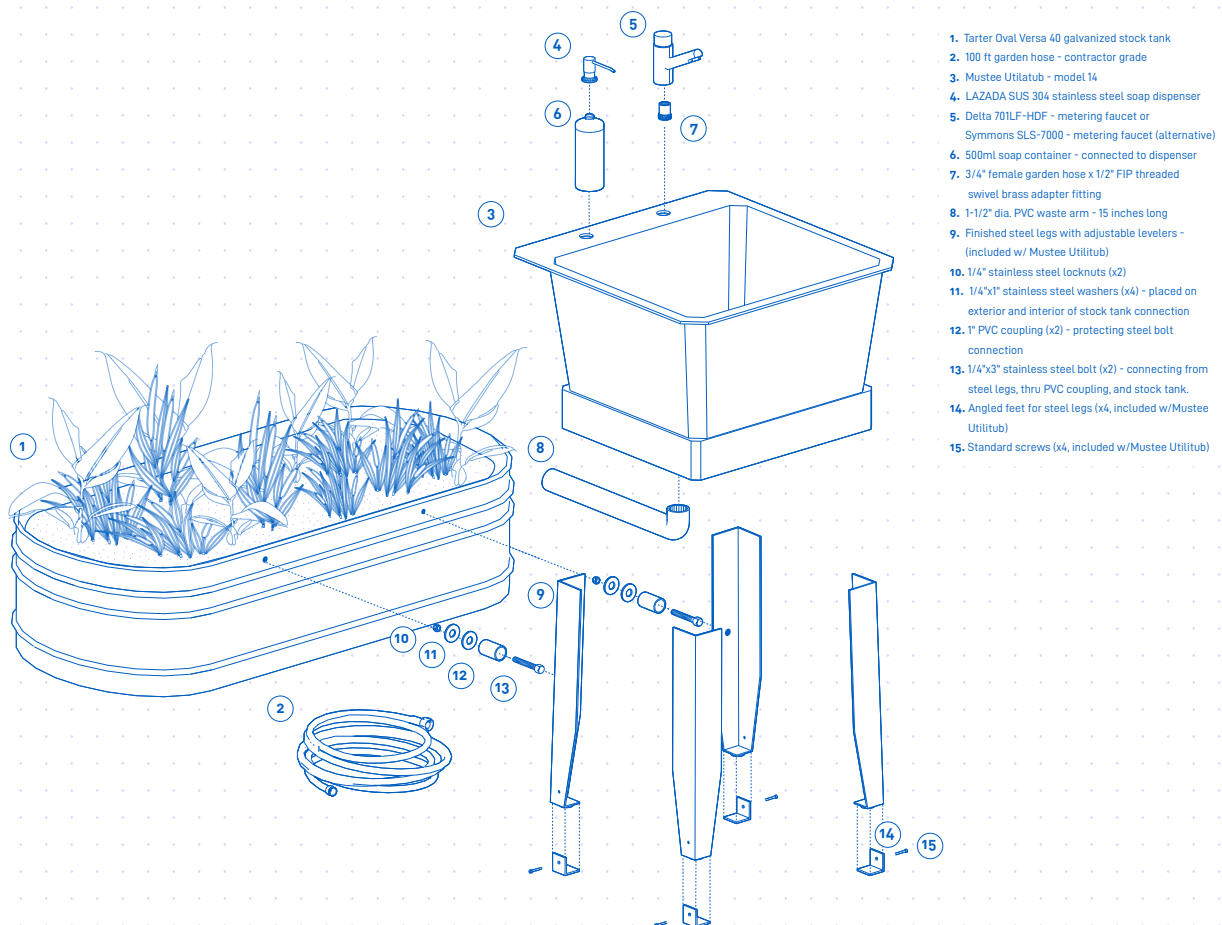


Figure 2. Assembly diagram, version one. Alex Barr.

list of stormwater plants, can be adapted and reconfigured to the exposure of each site.

The stormwater planter's components are also readily available at home improvement centers and it can be assembled by one person in about thirty minutes. Once on-site, the sink is secured to the planter to ensure that the sink drain is centered in the planter for even distribution and filtering of the greywater and to prevent the sink from being stolen as it is light enough to be picked up and removed. An unintended but welcome outcome is the planter's micro-placemaking role within the urban environment making the sink more approachable and acceptable to the community as a place of gathering. The cost of all materials and soil for the complete assembly is roughly \$350.

ENGAGEMENT THROUGH SOCIAL MEDIA

With limited capacity to build sinks, the team leveraged social media and a project website to inspire the community to independently assemble sinks. A website, *cleanhandscollective.org*, was launched and once the initial prototype had been built and tested, the assembly of the second sink was recorded and a DIY video was produced and uploaded to the site. (Fig. 3&4) The website and video explain the required tools, parts and step-by-step assembly process with the goal of encouraging others in Seattle to assemble sinks thus lessening the burden on the project team to produce the units. However, within months the reach had expanded well beyond Seattle as outlined below confirming the effectiveness of the communication platforms.

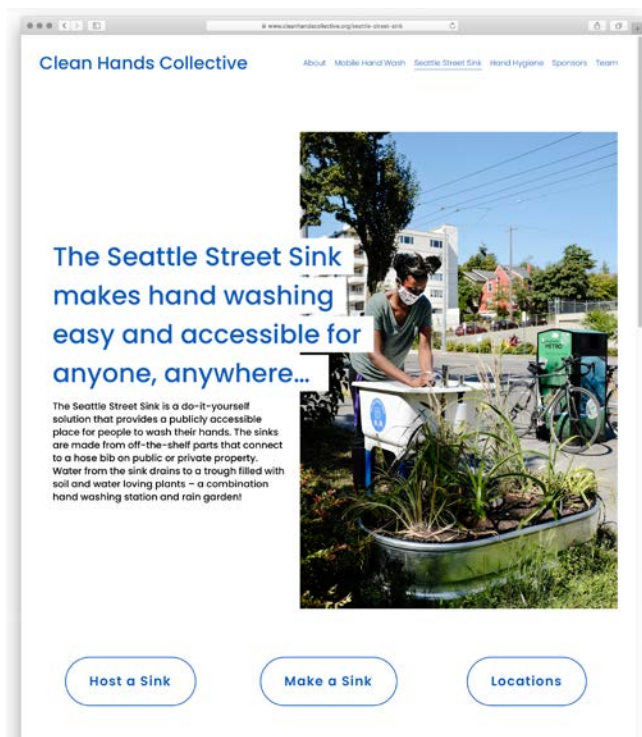


Figure 3. Seattle Street Sink web page. Elizabeth Golden, Philip Straeter.

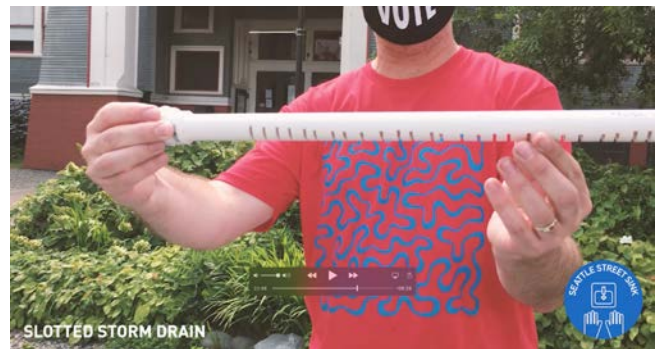


Figure 4. Still from DIY video. Alex Barr.

ENGAGING THE PUBLIC HEALTH COMMUNITY

While not a goal of the project at the outset, an outgrowth of the early precedent research, prototype development and social media campaign were collaborative connections established with healthcare providers and public health experts both within Seattle and beyond. While conducting research into pandemic response efforts around the country, the Street Sink team connected with a group of medical students at Wayne State University in Detroit operating as Street Medicine Detroit (SMD). SMD's inexpensive and highly mobile installations consist of a five gallon plastic bucket, spigot and plastic spray bottle on a rope secured to the bucket. Its website includes instructions for both procuring parts and assembling the devices. While the Street Sink team's design approach ultimately differed from SMD's it was, nonetheless, influenced by the clear focus on public health, the DIY design ethic of the installations and the deployment of a social media platform and online procurement and assembly information enabling DIY efforts anywhere.

Early in the research process, the SSS team approached Dr. Anita Chopra and her daughter, Mehr Grewal. Dr. Chopra is an internal medicine physician at UW Medicine and a member of the university's healthcare equity diversity and inclusion committee through which she engages in health focused community outreach. Mehr is a middle school student who is actively engaged in health-focused community outreach. Dr. Chopra emphasized the importance of accurately documenting the use of handwashing stations to quantify its public health impact. This data can then be used to lobby for support from the private and/or public sectors. Recognized for her social activism on multiple fronts, Mehr is the founder of "Clean Hands Save Lives", a campaign established years before the pandemic to raise awareness of hand hygiene as a "do-it-yourself" vaccine. Similar to the SMD effort outlined above, Mehr developed a mobile handwashing station consisting of a five gallon bucket, spigot and soap dispenser, which she deployed outside Seattle area community centers, soup kitchens and grocery stores. In addition, she cultivated a relationship with a local home improvement center resulting in a donated supply chain of materials for the project. With their combined expertise and experience in leveraging public health data, developing supply chain networks and identifying

community partners to host the sinks, Mehr and Dr. Chopra were added as consultants to the team early in the Street Sink design and development process.

Following a social media post announcing the installation of the first Seattle Street Sink and the launching of the Clean Hands Collective website, the team was contacted by health care providers and public health researchers outside Seattle including a school district nurse in eastern Washington State's Methow Valley and representatives from Duke University's Center for Water, Sanitation, Hygiene and Infectious Disease (WaSH-AID) in Durham, North Carolina. Both organizations were exploring options for expanding handwashing facilities before and, especially, in the wake of the pandemic. Using the information posted on the CHC website, WaSH-AID raised funds for and installed a Sink Street identical to the Seattle prototype at a public skate park in downtown Durham. They also posted the project, with links to the CHC website, on the landing page for the "Outreach" section of their extensive website. Adriana Vanbianchi, the school district nurse in eastern Washington state, organized an impressive fundraising and volunteer effort to install multiple handwashing stations at the Methow Valley's elementary, middle and high schools. While WaSH-AID adhered to the design parameters of the Street Sink prototype, the Methow Valley effort was more improvisational in response to varying site conditions, a cold winter climate and the need to provide access for children.

While the Street Sink effort had not considered engaging with the public health community at the outset, these relationships proved invaluable in shaping the team's approach to data collection, materials acquisition, site selection and accessibility. They also unexpectedly expanded the Street Sink's reach beyond the Seattle area and highlighted the relative ease with which these groups were able to garner approval for sink installations in other jurisdictions, in contrast to the challenges the team has faced working within Seattle.

ENGAGING NON-PROFIT AND FAITH-BASED COMMUNITIES

The Seattle Street Sink avoids the need to constantly refill a fixed water supply by connecting to a hose bib. While this is a technical solution to a water supply problem, it also necessitates expanded community outreach and engagement as individuals or organizations are needed to host the sinks. Initial host recruiting efforts focused on Seattle's P-Patch Community Gardening Program, managed by the City's Department of Neighborhoods (DON), as all eighty-nine gardens throughout the city have hose bibs. However, expressed concerns regarding vandalism and safety risks associated with homelessness led the team to find organizations more aligned with the Street Sink's mission.

Recruiting non-profit organizations already serving those experiencing homelessness proved to be a productive approach. The first host organization was the ROOTS young adult center in Seattle's University District, a neighborhood with a large

population of young people experiencing homelessness. ROOTS provides both shelter and meals and occupied a church basement accessed from an alley which was home to several other organizations supporting those experiencing homelessness, suffering from substance abuse or both. The Street Sink was installed along the edge of the alley and, with its rain garden standing in stark contrast to the service entrances, dumpsters and parking stalls lining the alley, became a focal point for the unhoused community living there as well as the organizations serving them. (Fig. 5) The team also learned that the utility sink was being used for clothes washing in addition to handwashing and embraced this by providing a sink stopper attached to a cable mounted to the sink.

With a proven installation in place and a host organization willing to endorse the Street Sink concept, the challenge of recruiting hosts was reduced, especially within the University District. Teen Feed, an organization providing meals for youth experiencing homelessness, and also operating out of a church basement, provided a site on a street corner where patrons would queue for meals encouraging them to wash their hands while waiting. A few blocks away, the University Heights Center, a community-based non-profit providing a wide range of educational, arts and cultural programs, hosted an installation adjacent to a bus stop becoming the first host not focused primarily on services for the homeless community. In the first two cases, the non-profit service providers required approval from the churches' supervisory boards for the sink installation and on-going maintenance thus expanding the need for community engagement by the Street Sink team. A benefit of the three initial installations is that their locations—an alley, corner and bus stop, provided the team with the opportunity to test the design in a variety of prototypical urban conditions.

ENGAGING THE BUSINESS COMMUNITY

Cultivating relationships with business is a secondary but nonetheless important aspect of the project. Vandalism is an occasional challenge for the sinks and this typically results in bending of the sink legs, which are made of light gauge sheet metal and vulnerable to damage. The full sink assembly costs between \$30 and \$40. Ironically, a set of replacement legs alone are the same cost. In response to this dilemma, the team contacted the sink manufacturer, E.L. Mustee & Sons of Cleveland, Ohio, and described the project and the need for replacement legs. The manufacturer promptly responded by providing eight sets of replacement legs at no cost.

When the team confronted challenges procuring the agricultural feed tanks used for the rain gardens, it engaged with the local supplier who adjusted its expedited orders from the manufacturer in response to the Street Sink's requirements while providing a discount as well. A wholly unexpected engagement with business involved the owner of a local chain of drive-in hamburger restaurants. Having read about the Street Sink program in the local press, he donated \$10,000 to be used at the program's



Figure 5. Seattle Street Sink located in alley behind ROOTS Young Adult Shelter. Brice Maryman.

discretion. This gift was critical as bridge funding when the team was waiting for funding from the City as outlined below.

ENGAGING ELECTED OFFICIALS, CITY DEPARTMENTS AND THE MEDIA

Real Change, the project's sponsor, sought to implement the Seattle Street Sink at scale by lobbying for both city funding and approval to install the sinks on city-owned property. With support from several Seattle City Councilmembers, the Seattle Street Sink was included as a line item in the Council's "Homelessness Response" amendment request to Seattle Mayor Jenny Durkan's proposed \$6.5 billion budget for 2021. It proposed \$58,000 for Seattle Public Utilities (SPU) "...to increase access to hygiene and handwashing services through the provision of 63 "street sink"-style handwashing stations. The proposal intends to achieve citywide coverage by specifying the deployment of nine sinks in each Council district."³ This budget request was later increased by council to \$100,000 but bureaucratic and regulatory barriers

arose once the project came under the scrutiny and purview of City departments. A memo from SPU to city council raised several concerns including the sink's compliance with the Americans with Disabilities Act, the sink raingarden's compliance with state environmental regulations, and the sink's vulnerability to sub-freezing temperatures. While these are arguably reasonable concerns, two of them—compliance with ADA and freezing vulnerability—also apply to the vendor supplied hand wash stations deployed by SPU itself.

In apparent response to these concerns, Seattle's Department of Neighborhoods (DON) and SPU, with support from the Mayor's Office, opted not to honor Council's request for funding for the Seattle Street Sinks and, instead, launched the Seattle Water and Waste Innovation Funding Program (WWIF) which states "In response to COVID-19, this one-time funding opportunity supports mutual aid efforts that make hygiene resources more accessible to the public, reduce illegal dumping and litter, and avoid the wasting of food and other materials."⁴ The program would provide up to \$150,000 in funding for two to three projects focused on the provision of hand hygiene facilities and the reduction of food waste by, for example, better connecting food retailers with food banks and other aid organizations. The City's insistence that the Street Sink comply with standards not met by its own facilities coupled with an apparent misalignment between City departments, which are under the Mayor's purview, and City Council attracted the attention of the local press including the Seattle Times. In May, 2021 alone there were more than a half dozen articles and blog posts focused on the apparent dispute between Council and the Executive and its impact on City funding and support for the Street Sink program. (Fig. 6)

slog

NEWS • HEALTH • HOUSING

Who Knew There'd Be so Much Drama Around Some Damn Sinks?

by Nathalie Graham • May 7, 2021 at 11:33 am

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Beware the big, bad street sink, city departments warn.

Figure 6. Headline from the Slog, online publication covering Seattle news, politics, and entertainment. The Slog, Philip Straeter.

CITY FUNDING AND EXPANDED ENGAGEMENT

The Street Sink team successfully applied to the WWIF program and received \$56,000 in City funding to install and maintain fifteen street sinks citywide. This allowed the team to hire two part-time staff to support the effort. Isabela Noriega, a UW graduate student in both architecture and landscape architecture, was hired to coordinate with City staff, identify areas of greatest need for the sinks, locate potential sites and recruit prospective host organizations. (Fig. 7) Lauren Corn, a UW graduate student in both landscape architecture and urban design and planning, was hired to coordinate material procurement, assembly and installation of the sinks themselves.

Regarding compliance issues, subsequent conversations with staff from the DON, SPU and the City's ADA Compliance Coordinator were promising. First, it was determined that the sink as designed would comply with ADA as a side approach fixture assuming that access to it would be fully compliant with ADA requirements. Second, strict compliance with state environmental regulations was no longer required although the rain garden overflow would have to discharge into an approved storm drain. A wide array of sites on City owned property, including along sidewalks and within public parks, were being considered.

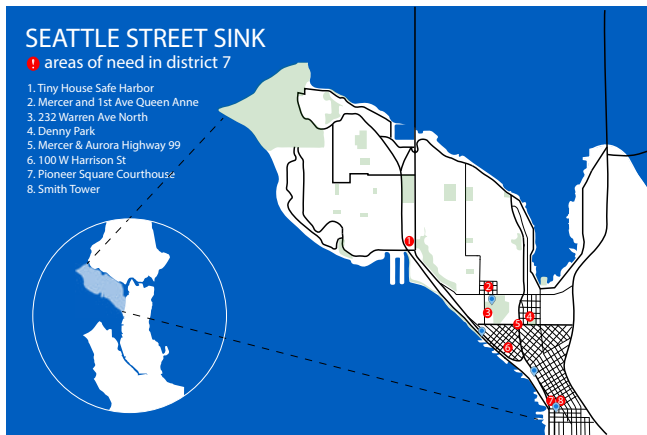


Figure 7. Mapping Areas of Need. Isabela Noriega.

This would entail a much simpler process than that of identifying and recruiting non-profit organizations to host the sink on their property. Sidewalk installations would entail connecting to adjacent fire hydrants with an adapter for water supply and the garden overflow would drain over the curb into city storm drains. Installations in City parks would re-open potential sites in community gardens, which typically have access to hose bibs and often have access to storm drains.

However, as discussions with City staff continued it became clear that access to city-owned sites would, at best, be challenging and, at worst, prohibited outright. First, the team was denied access to fire hydrants as a water supply. This would require installations on city sidewalks to connect to hose bibs on buildings along the sidewalk by running a garden hose across it. This option was discarded as it would create a tripping hazard for pedestrians. The team was also denied access to sites within City parks by the Department of Parks and Recreation due to the growing number of complaints from residents regarding the expanding homeless encampments in parks throughout the city. With the elimination of essentially all City-owned property as potential sites the team was, again, tasked with finding and recruiting organizations to host the sinks on private property.

STREET SINKS, COMMUNITY AND THE POLITICS OF HOMELESSNESS

As of this writing, nearly a year after the Seattle City Council voted to provide the Seattle Street Sink program with \$100,000 in funding to expand its efforts in providing handwashing facilities for those experiencing homelessness, the program has installed only five sinks within the city. It has ten units fully assembled and being stored as it seeks additional organizations with sites meeting the City's criteria to host them. (Fig. 8) One might wonder, as the local press has multiple times over the past six months, why a grassroots, community-focused program with such strong support from elected City officials would encounter so many bureaucratic barriers within the City itself. One explanation would be a simple policy misalignment between City Council

and the Mayor's Office. However, as the crisis of homelessness, exacerbated by the pandemic, becomes more visible and impacts, not only those directly experiencing it, but everyone in the city, the values of a so called "progressive" community are being tested. Homelessness is the defining issue for the upcoming mid-term elections for Seattle Mayor and two City Council positions. The platforms of the competing candidates represent strongly opposing views of homelessness which, in turn, reflect a polarized electorate.

One position is that the growing number of homeless encampments and their associated waste and debris found within parks, along sidewalks and under bridges are unsightly, inhumane, and unacceptable and are thwarting the City's economic recovery from COVID. This position calls for the swift removal of the encampments and the relocation of residents to tiny house villages, which have yet to be fully funded nor have sites for them been identified. The opposing position contends that homelessness is symptomatic of deeply embedded social inequities that can no longer be ignored by simply moving those impacted by them to less visible locations. This position calls for major social reforms such as more equitable tax policies to generate increased revenue for funding a significant increase in permanently affordable housing and supportive services. Both positions claim to advance the more "compassionate" solution.

After eighteen months of effort, the Seattle Street Sink finds itself at the center of this heated debate.⁵ What began as a casual collaboration between an advocacy organization for those experiencing homelessness and three built environment educator/practitioners has evolved into a community of public health practitioners, non-profit and faith-based organizations, businesses, elected officials, City staff, the press and the homeless



Figure 8. Street Sinks Awaiting Sites. Elizabeth Golden.

community itself despite the installation of only five sinks during that timeframe. While its goals were, and continue to be, making modest improvements in the lives and health outcomes of those experiencing homelessness, the Street Sink's more substantial contribution may be in highlighting the ethical dilemma homelessness is forcing the larger community to confront and the daunting challenges of addressing it. The future of the program will likely hinge on the results of the pending election and whether the City's electorate will decide that homeless encampments and the infrastructure supporting them are thwarting the City's economic recovery and must be removed or if the economic and social structure of the City itself is the problem and must be fundamentally transformed.

ENDNOTES

1. According to the 2018 Annual Homeless Assessment Report by the U.S. Department of Housing and Urban Development. The King County 2020 Point-in-Time Count for Seattle/King County found 11,751 people experiencing homelessness on one night in January, with 53 percent sheltered and 47 percent unsheltered.
2. Sydney Brownstone, "Here's what the Seattle area has – and hasn't – done to protect its homeless population from coronavirus," *The Seattle Times* (Seattle,WA), April. 11, 2020. <https://www.seattletimes.com/seattle-news/homeless/>
3. Seattle City Council Central Staff. Homelessness Response: Budget Summary, by Jeff Simms and Brian Goodnight. Issue 10.21.20, Seattle WA, 2020..
4. Seattle Public Utilities. Program Guidelines: Seattle Water & Waste Innovation Funding Program.
5. Sydney Brownstone, "Tension over visible homelessness has risen in Seattle – and the country," *The Seattle Times* (Seattle,WA), August. 24, 2021. <https://www.seattletimes.com/seattle-news/homeless/the-tension-over-visible-homelessness-since-in-the-pandemic-has-risen-in-seattle-and-the-country/>