

The Seattle Street Sink and the Pandora's Box of Grassroots Design Activism

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This paper uses the Seattle Street Sink project to discuss the resistance faced by bottom-up, community design efforts intended to compensate for an inadequate response by government, particularly in addressing the shortfall of housing and services during the public health crisis caused by the COVID-19 pandemic.

INTRODUCTION

The Seattle Street Sink is exactly that, a sink on the street. And yet, the simple act of installing a curbside washbasin in the city has proven to be more challenging than anticipated by the team of architects and landscape architects pursuing it. The project illustrates in miniature how design can expand beyond mere problem solving to engage the systemic complexities and challenges that shape the built environment, while striving to overcome bureaucratic hurdles and ideological divisions in the process.

This paper will frame the Seattle Street Sink project within a broad context, including the people experiencing homelessness that it is intended to benefit, non-profit organizations that serve this population, a city bureaucracy that oversees the implementation of public infrastructure at multiple scales, and a society that is deeply divided on the issue of homelessness. It will illustrate the resistance faced by bottom-up, community efforts intended to compensate for an inadequate response by government and the risks of engaging with controversy stemming from the shortfall of housing and services for a rapidly growing population. This paper is open-ended and revelatory, provoking dialogue regarding both the potential and limitations of design in real-world conditions and particularly those within the public domain.

A CITY IN CRISIS

Seattle faces a crisis. The country's eighteenth largest city has one of the largest populations of people experiencing homelessness.¹ On March 25th, 2020, Washington Governor Jay Inslee announced the country's first "Stay at Home" order due to the COVID-19 outbreak. For those with no home in which to stay, this meant even fewer opportunities to wash one's hands in the (now closed) libraries, community centers, parks and restaurants



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

that had previously helped offset the city's inadequate supply of hygiene facilities. Suddenly, Seattle's most vulnerable population became exponentially more vulnerable, and, within the context of the pandemic, the rest of the community as well.

In response, the City hired vendors to install temporary hygiene stations consisting of turnkey mobile handwashing stations and portable restrooms on public property. Nevertheless, the number and distribution of these stations was and continues to be woefully inadequate to meet the demand for them, especially when compared to other cities addressing to the same crisis. For example, as of April, 2020, Seattle had installed just six hygiene stations to serve its unsheltered population of over 5,000, while San Francisco had installed thirty-five stations serving a population of 5,200 and San Jose had installed twenty-six stations serving a population of 5,100.² To Seattle's partial defense, the expanding national demand for the stations made them nearly impossible to procure. In addition, at a monthly cost of



Figure 2. City hired handwashing station. Rick Mohler.

roughly \$35,000 for both the sinks and restrooms, the stations are extremely expensive to operate at a time when the city is facing a severe budget shortfall. One reason for this expense is that the handwashing stations must constantly be emptied of greywater and re-filled with clean, as they are not connected to a water supply and have no means by which to treat the greywater (fig. 2). This situation led Tiffani McCoy, Lead Organizer at 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 the American Institute of Architects Seattle Chapter's Committee on Homelessness. A team consisting of architecture and landscape faculty from the University of Washington College of Built Environments, a practicing landscape architect and public health experts stepped forward to help, while Real Change provided \$5,000 in initial funding for parts and materials.

ASSESSING A NATIONAL RESPONSE

The team began by taking an inventory of efforts nationwide to expand handwashing facilities that ballooned in response to the pandemic. These included extremely low-cost mobile handwashing stations consisting of donated five gallon buckets and spigots assembled by medical students in Detroit, modified plastic garbage cans with foot pumps promoted by non-profit LavaMaeX in Berkeley, and elaborate, custom designed and fabricated stainless steel fixtures connected to separate clean and greywater tanks by Payette Architects in Boston. The team was inspired by the low-cost, do-it-yourself approach of the first

two projects and rejected the cost and complexity of the third. However, the team recognized that all three approaches were hampered by the need to constantly empty the greywater tank and replenish the clean water tank in the closed-loop system, as is the case with the city-sponsored stations in Seattle.

In response, the team developed handwashing stations assembled from readily available, off-the-shelf parts that could be easily replicated by anyone with limited skills using simple tools and the requisite information, and that this information would be open-source and easily accessible. The stations leverage existing water infrastructure, namely hose bibs located in publicly accessible spaces around the city, and treat greywater on-site, eliminating the maintenance and cost of the city installed units and others being implemented around the country. The team sought to convince the City of Seattle to adopt the design and scale its implementation to meet the expanding need for hygiene services. In working toward each of these goals, the project met a number of challenges, some of which required 'nuts and bolts' design solutions, while others prompted grassroots organization and community outreach.

OFF-THE-SHELF & OPEN SOURCE

The first version of the Seattle Street Sink includes a \$30 stock utility sink fitted with a PVC elbow drainpipe, a soap dispenser and a metering (auto shut-off) faucet connected to a nearby hose bib with an inexpensive garden hose. The soap dispenser was procured online while the remaining components were obtained from a typical home improvement center (fig. 3). At \$30, the utility sink is the least expensive, free-standing sink available. It is lightweight and easily transported and its legs are installed with a few taps of a hammer. The drain and soap dispenser are installed by hand without tools and the faucet is

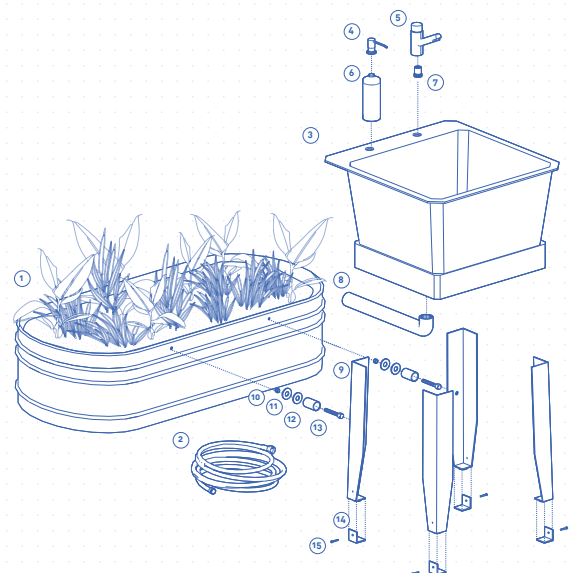


Figure 3. Assembly diagram, version one. Alex Barr.

installed with an adjustable wrench. The assembly can be easily completed by one person in thirty minutes.

Wastewater from the sink is a public health concern—both as a vector for pathogens and as hazard for surrounding water bodies and the salmon that inhabit them. The design employs proven green stormwater infrastructure technologies in a modular stormwater planter. This consists of a stock, galvanized steel agricultural feed tank filled with a soil mix including topsoil, compost and sand. Beneath the soil at the bottom of the tank is a drainage system consisting of a slotted ¾-inch PVC pipe wrapped in crushed rock and filter fabric with an outlet at the base of the tank. The chemical and biological processes in 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. The plantings—selected from the City of Seattle’s approved list of stormwater plants—can be adapted and reconfigured to the exposure of each site.

Similar to the sink assembly, the stormwater planter’s components are readily available at home improvement centers and can be assembled by one person in about thirty minutes. Once on-site, the sink is secured to the planter with ¼-inch stainless steel bolts through two holes drilled the sink legs and the tank. This serves two purposes. First, it ensures that the sink drain is centered in the planter for even distribution and filtering of the greywater. Second, it prevents the sink from being stolen, as it is light enough to be picked up and removed. An unintended benefit is the planter’s micro-placemaking role within the urban environment, making the sink more accessible and acceptable to the community as a place of gathering. The cost of all materials and soil for the complete assembly is roughly \$350.

The team sought to inspire the community, through social media and a project website, to independently assemble sinks in response to a national health crisis—allowing the project to assume a life of its own. Once the initial prototype had been built and tested, the assembly of the second sink was recorded and a DIY video was posted to the project website, www.cleanhandscollective.org (fig. 4). Using the ‘knolling’ method of object organization, the video simply reviews the required tools, parts and the step-by-step assembly process. The primary intention of this effort was to encourage others in Seattle to assemble sinks to lessen the burden on both the team and, eventually, the city in providing the units. However, within months the reach had expanded well beyond the city, with Street Sink spin-offs being produced by a school nurse at the Methow Valley School District in eastern Washington State and a team at Duke University’s Center for Water, Sanitation, Hygiene and Infectious Disease in Durham, North Carolina. These replications confirm the breadth and urgency of the problem and the effectiveness of the communication platforms.

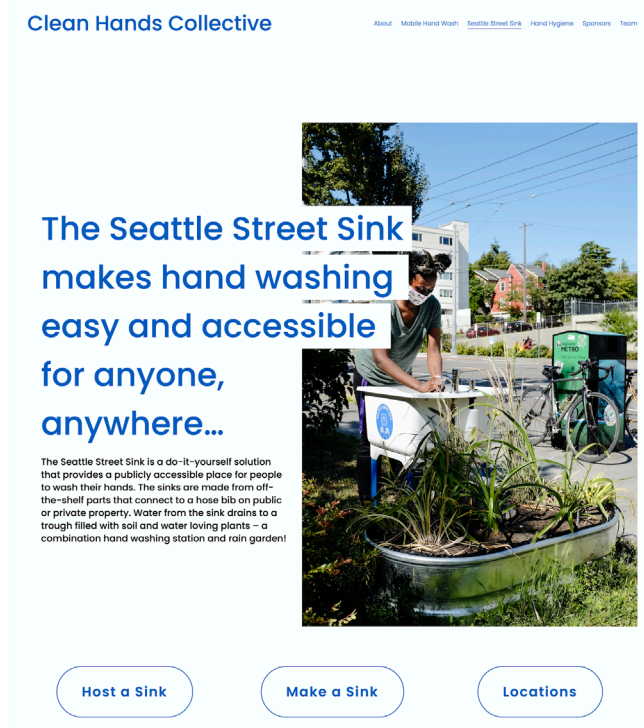


Figure 4. Seattle Street Sink web page. Philip Straeter.

TAPPING EXISTING WATER INFRASTRUCTURE

Connecting to an existing hose bib requires someone to host the sink and provide access to the water, which proved more challenging than initially assumed. Seattle boasts a very popular community gardening program managed by the Seattle Department of Neighborhoods. The program provides gardening plots for individuals and groups on eighty-nine, city-owned parcels. Given that the plots are publically owned, well distributed throughout the city, easily accessed and provide a water source, they appeared to be obvious candidates for hosting the sinks. However, upon contacting the program leadership, the team was met with firm resistance, which was justified by citing previous “...problems with homeless: drug paraphernalia, human waste, vandalism and theft of garden tools.”³ These concerns signaled the need for alternative sites and to brand the sinks as a familiar and approachable public utility. This included a consistent color palette for the sink legs and a recognizable logo demonstrating that, while the sinks respond to a public health crisis most impacting the unhoused, the project benefits the entire community and should be welcomed as a result (fig. 5).

A more successful strategy for recruiting hosts was to contact non-profits already engaged in serving those experiencing homelessness. The first host to commit was the ROOTS Young Adult Shelter in Seattle’s University District, a neighborhood with a large population of young people experiencing homelessness. ROOTS is located along an alley that hosts several other non-profit organizations supporting the homeless community. Its executive director, Jerred Clouse, not only hosted the sink

but emerged as a vocal supporter of the project by stating “... the Seattle Street Sink meets a huge community need...at the community sink, there’s no reason to feel shame for lacking access to a basic human right like hygiene.” The first sink was installed on May 19th, 2020. With endorsement from ROOTS and the support of a social media campaign, other non-profits serving those experiencing homelessness followed suit. The response from users of the sink, some of whom live part-time in the alley outside ROOTS, was immediate and positive. Several early users of the sink expressed both surprise and delight that the sink was installed for them. The utility sink’s large basin led to questions as to how it might be used. However, this proved to be an advantage as it was reported shortly after installation that people were washing clothes and dishes, in addition to their hands, prompting the team to secure a stopper to the sink to better facilitate this use.

UNIVERSAL ACCESS

The modest cost and ease of assembly of the first version of the sink is offset by its 33-inch height and 24-inch reach to the

faucet making it unusable for a child or someone in a wheelchair. Recognizing this shortcoming from the outset, the team intended to develop an accessible version that would be more suitable for implementation by the city. This process was accelerated when architect Karen Braitmayer, a nationally recognized universal design consultant, contacted the team, encouraging them to develop a “wheelchair friendly” version and offering her services toward that effort.

Aside from being more accessible, the design criteria for version two were identical to those of version one including the use of readily accessible parts, ease of assembly with simple tools, replicability, connection to a hose bib for water supply and the use of a stormwater planter for integrated greywater treatment and open source access to information. Where version one consists of two distinct but connected parts, version two is a fully integrated design in which all components are supported by a taller version of the rain garden. A standpipe mounted to the rain garden tank both provides the water supply and acts as an armature for the sink, faucet, soap dispenser, logo and



Figure 6. Members of the Gurudwara Singh Sabha community posing with the “wheelchair friendly” version of the street sink. Anita Chopra.



Figure 5. A Seattle Street Sink located next to the University Heights Community Center, at bus stop. Philip Straeter.

instructional graphics. The increased depth of the rain garden in version two requires additional soil but has the benefit of increased water filtration capacity.

The standpipe is assembled of stock sections of pre-threaded $\frac{3}{4}$ -inch diameter galvanized steel pipe available at any home improvement center. The washbasin is a 12-inch by 18-inch by 2-inch deep anodized aluminum baking pan purchased online as are the stock wall mount metering (auto shut-off) ADA compliant faucet and soap dispenser. The entire assembly is connected by stock galvanized steel fittings and stainless steel fasteners, also available at any home improvement center. The steel fittings allow for vertical adjustment so that the sink can be set at a height that is comfortable for those both in a wheelchair and standing. While the tools, skills and time required for the assembly of version two are more extensive than for version one, they nonetheless conform to the design team's DIY criteria. The unit requires a drill, a pair of adjustable wrenches, a pair of plumber's wrenches, a hacksaw and an allen wrench for complete assembly. Depending upon one's level of skill, the unit can be assembled within eight hours by a single person and less if one has help. The \$750 cost of the parts and soil for version two is roughly double that for version one.

The prototype of version two, together with a version one sink, were installed in August 2020, at the Gurudwara Singh Sabha in Renton, WA, next to the *langar*, or community meal hall, and adjacent school (fig 6). The sinks enable the hundreds of temple-goers and students to wash their hands before entering to worship, eat, and attend classes. By placing the prototype at this location, the team could test the design in a less demanding environment before being installed in the public realm. An unintentional but welcome outcome of version two is its enhanced sense of placemaking through more engagement with the rain garden. Instead of standing at a sink with no view of the garden as in version one, version two provides one with the experience of washing one's hands within the garden, as the sink is suspended directly above it.

VANDALISM, RESISTANCE, AND THE PARADOX OF THE "PROGRESSIVE" CITY

While the project has been well received by many and has garnered a positive response in the online media it is not without detractors. Vandalism of the four street sinks deployed within Seattle occurs on a roughly monthly basis and is repaired by a small but dedicated cohort of enlisted volunteers (fig. 7). The motivation behind some damage, such as a missing container from a soap dispenser is understandable, as the soap may be needed at nearby homeless encampments. However, the intent of other damage, such as bent and/or missing sink legs or a severed garden hose, is more elusive. Casual conversations with users of the sink outside ROOTS suggest that it may result from actions by someone who has a mental illness or a substance abuse disorder. Even so, this does not discount the possibility that a business owner or nearby resident perceives



Figure 7. Sink damage from vandalism. Aaron Allen.

the sink as threat to their business, personal safety or everyday experience by attracting unhoused members of the community. The latter explanation is bolstered by a recent story in *Real Change*, a weekly newspaper focused on issues of social equity and homelessness published by the organization of the same name. In the first week of January 2021, three tents sheltering unhoused community members were doused with gasoline and set ablaze in Seattle's affluent Queen Anne neighborhood. The encampments were hosted by a neighborhood church and were well removed from the public right-of-way. Fortunately, those inside the tents were able to escape with only one suffering minor injuries.⁴ This incident highlights the polarizing impact that the crisis of homelessness has on communities—even in a self-proclaimed "progressive" city such as Seattle.

LOBBYING THE CITY AND THE REALITY OF RED TAPE

From the outset, 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 them on city-owned property. With six units installed and tested both within and outside the city, this effort gained momentum. Use of the sinks is continuously monitored by measuring the amount of soap replaced at each sink each week and assumes an average amount used per hand wash. For example, the installation outside the ROOTS Young Adult Shelter is estimated to provide roughly 120 hand washes per week. This data is compiled and leveraged to make a cost/benefit case for funding.

With advocacy and support from Seattle City Councilmember Tammy Morales, the Seattle Street Sink Version Two was approved 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 provides \$100,000 for the Seattle Department of Neighborhoods (DON) to work with Seattle Public Utilities (SPU) "...to increase access to hygiene and handwashing services through the provision of sixty three "street sink"-style handwashing stations. The proposal intends to achieve citywide coverage by specifying the deployment of nine sinks in each Council district."⁵ Remarkably, press coverage of the council budget request in *The Seattle Times* included eight paragraphs and a photograph devoted to the Street Sink proposal suggesting it is an outsized human-interest story relative to its modest budget.

Real Change and the design team anticipated bureaucratic and regulatory barriers once the project came under the city's purview and scrutiny, and this proved to be the case. A memo from SPU to city council raised several concerns including the sink's compliance with the Americans with Disabilities Act, the sink rain garden's compliance with state environmental regulations, and the sink's vulnerability to sub-freezing temperatures. While these are reasonable concerns, two of them—compliance with ADA and freezing vulnerability—also apply to the vendor-supplied stations currently deployed by SPU. In fact, Street Sink version two, while not fully compliant with ADA, is at least accessible to a wheelchair user while SPU's station is not (see figure 2). With respect to freezing, Seattle, on average, has fifteen days per year when the temperature drops below freezing and this is typically for only part of the day. Simply turning off the water supply and partially draining the system would solve this problem on the rare occasions when it arises. With respect to the rain garden, the system was designed by landscape architect Brice Maryman, an expert in green stormwater management, who frequently works with the city. The bioretention soil is designed to meet City of Seattle specifications, although further testing may be required. This issue, however, should be viewed within the broader urban context in which potential greywater draining from an eighty gallon rain garden is dwarfed by the petroleum products and heavy metals constantly leaching from cars occupying the city's 500,000 street parking spaces.

In response to these concerns, SPU is proposing potential alternatives to the Seattle Street Sink for city council consideration. Their proposals are estimated to be roughly ten times the cost, would still require the labor cost of constant water replacement and the degree to which they would accommodate the disabled remains in question. The council sponsored Street Sink budget assumes that sixty-three sinks would be installed citywide. The same budget would provide ten of the alternative sinks at best. Erica Barnett, a highly regarded journalist covering city politics, critiqued this pivot by the city in a recent online article, prompting the city to reengage with the project team.⁶ At the time of this writing, the outcome is unknown and the Street Sink team

will be meeting with city council members and staff in the coming weeks to make its case.

The city must, understandably, comply with its own legal requirements as well as those imposed by the state under normal circumstances. However, these are not normal circumstances. The city is in the midst of a public health crisis that mandates swift action at scale. The transition of its efforts from a small-scale, privately funded, community-based effort to a city sponsored and funded one has yielded several lessons for the design team. First, the flexible and improvisational nature of collective, grassroots activism is stymied once the city becomes liable for the outcome of its actions. Second, while the team had aspirations for city sponsorship from the outset, the Seattle Street Sink was designed as a flexible and accessible framework for community action and not as a response to the city's onerous technical and legal requirements. It may be that retrofitting the effort for city deployment is an unrealistic expectation.

Ultimately, the Seattle Street Sink is as much about building community as it is about building sinks. It is a vehicle by which neighbors can help neighbors, creating social connections that would otherwise not exist and potentially bridging ideological divides in the process. It leverages a public health crisis as an opportunity to empathize with the most vulnerable among us and to better understand their circumstances and needs. As a public health research tool, it connects design and medical professionals with a common goal. A bottom-up counter-response to the city's top-down approach toward public health and hygiene, the Street Sink serves as both a critique and an alternative vision of collective problem solving. As such, it may need to remain in the private, community-based realm relying on private funding, organizational hosting and community deployment. Nevertheless, even if this is the case, the Seattle Street Sink, with the support of Real Change, the local press, online media and the community at large, has amplified the call for additional hygiene facilities in the public realm and the city is responding to this call.

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/heres-what-the-seattle-area-has-and-hasnt-done-to-protect-its-homeless-population-from-coronavirus/>
3. Joyce Moty (vice president of GROW), in e-mail to Seattle Street Sink team member, Seattle, April 2020.
4. Chetanya Robinson, "Pyro attacks harm Queen Anne camp residents," *Real Change* (Seattle, WA), February. 17, 2021. <https://www.realchangenews.org/news/2021/02/17/pyro-attacks-harm-queen-anne-camp-residents>
5. Seattle City Council Central Staff. *Homelessness Response: Budget Summary*, by Jeff Simms and Brian Goodnight. Issue 10.21.20, Seattle WA, 2020.
6. Erica Barnett, "Street Sinks Stalled," *Publicola* (Seattle, WA), February. 23, 2021. <https://publicola.com/2021/02/23/street-sinks-stalled-racism-in-renton-and-an-election-lightning-round/>