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Homelessness, Water Access, and Environmental Justice in an Urban Environment

by
Alicia Gamble

A thesis submitted in partial fulfillment of the
requirements for the degree of

Master of Environmental Management

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2023

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This project was not possible without the efforts of many individuals who envision a more equitable, inclusive, and sustainable future for those who have been disproportionately impacted by unjust societal systems founded upon white supremacy and capitalism. I give thanks to all those who supported and shared my vision of a better world past "private opulence and public squalor" (a term coined by Matthew Desmond).

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Abstract

Only in recent years has houselessness been viewed as an environmental justice issue, and little is understood about the environmental injustices of water insecurity among unhoused individuals, especially during the COVID-19 pandemic. In order to understand the environmental injustices (i.e., distributive, procedural, and recognition) of the water insecurity process using the cause-response-effect theoretical model, unhoused participants living near services were interviewed in Portland, Oregon about their lived experiences gaining access to water, the barriers they encounter when trying to access water, and the impacts that result from these barriers. Results revealed that COVID-19 was a barrier to water access and sanitation due to shut-offs, building closures, and shelter-in-place policies. Bringing the three pillars of environmental justice to bear on houseless water access, my results show that not only are hygiene options unevenly distributed throughout the city (distributive injustice). By restricting the physical movement of houseless individuals, the criminalization of houselessness in Portland segregates their opinions and ideas from the public sector and makes them invisible (procedural injustice). The feelings of shame from poor hygiene (distributive injustice) and criminalization (procedural injustice) lead directly to a loss of dignity (recognition injustice). Addressing all three pillars of environmental justice (beyond handing out water, for example) will reduce barriers and mitigate impacts.

1.0 Introduction

Water security is of the utmost importance for all human beings' survival, yet there are large disparities between classes of people even in the most developed nations. The most vulnerable populations to water insecurity tend to be those who are housing insecure. Only recently has housing and water security been posed as an environmental justice issue in order to address the global phenomenon of houselessness. Still, little is known about the environmental injustices of the water insecurity process for those who are unhoused. It is crucial to understand these environmental injustices in order to develop equitable and sustainable solutions to the houseless crisis, especially in a time of extreme wealth imbalances, global pandemic, climate change, and rising prices in housing and resources.

Houselessness has been a global ethical crisis for decades. Even the most affluent countries like the United States have failed to find sustainable solutions. The United Nations (UN), of which the United States (US) is a member, has declared houselessness a human rights violation, meaning it is every human's right to safe and affordable housing (United Nations, 2023a). However, the US has failed to recognize and ratify access to safe and affordable housing as a human right, unlike its consituents in the UN (United Nations, 2023b). The UN linked other human rights violations to houselessness such as impairment of health, premature death, criminalization, stigmatization, and procedural discrimination (United Nations, 2023a). Thereby, under the human rights standards of the UN, over 500,000 unhoused Americans' human rights are violated from a lack of safe and affordable housing in 2022 (de Sousa et al., 2022).

Some of the US states with the highest rates of houselessness are New York, California, and Oregon (de Sousa et al., 2022). Portland, Oregon is the area of focus in this study, as it has a high rate of houselessness, unique services for unhoused community members, and a local governance that impacts its unhoused community members differently than other cities in the US. In Portland, 5,228 people were experiencing houselessness one night in January 2022 (Joint Office of Houseless Services, 2022). Since the beginning of the COVID-19 pandemic, the number of people experiencing houselessness has increased by 30.2% (Joint of Houseless Services, 2022).

There are clear safety disparities for those experiencing houselessness in Portland, compared to housed individuals. For example, in 2017, of all the arrests made by the Portland Police Bureau, 52% were unhoused individuals, despite only making up less than 3% of the local population. (Woolington and Lewis, 2018). Also, there are 553 designated city blocks in Portland with heightened security and crime prevention that are funded privately, called enhanced services districts[1] (Cambell, 2021). Historically, many of these types of services have been publicly funded, but privatization was introduced to American cities to revitalize areas and boost the local economy (Briffault, 1999). However, based on the disproportionate arrests made between the unhoused and housed, the privatization of public services like increased security threatens the safety of unhoused individuals. In 2019, the Portland City Auditor conducted an audit on the enhanced services districts in Portland revealing concerns like the lack of oversight harming marginalized communities, such as those who are unhoused (Caballero, 2020).

[1] Enhanced services districts (ESDs) are known as business improvement districts (BIDs) in other states (Briffault, 1999).

The City does not oversee the privatized security services in enhanced services districts, which could lead to harassment and harm to unhoused community members. Another example of disparities in safety is traffic deaths. An unhoused individual is 50% more likely to die as a pedestrian in traffic accidents (PBOT, 2023). These traffic deaths are likely attributed to higher rates of exposure of unhoused individuals to high-speed traffic (PBOT, 2023). These alarming inequities among the unhoused community in Portland demonstrate the urgency and critical need to understand how unhoused Portlanders experience water insecurity through the lens of environmental justice.

The UN asserts that water and sanitation are also human rights (United Nations, 2023c), which throughout the United States is violated among those who are housing insecure. Little is understood about the process of water insecurity among the unhoused community in Portland and how these human rights violations occur. Specifically, there is little knowledge of the types of barriers unhoused community members encounter trying to access water and sanitation and how this impacts their lives. Using environmental justice to understand these barriers and impacts of unhoused water insecurity enables stakeholders to focus efforts on working toward a future of justice, healing, empowerment, and hope for one of the most marginalized groups of people on earth.

In this research, I implement the cause-response-effect theoretical framework originally developed by Wutich and Brewis (2014) and applied to water insecurity by DeMyers and colleagues (2017) to understand the environmental justice of water insecurity among unhoused individuals in an urban environment. This research aims to answer the question, how does the process of water insecurity impede or allow

environmental justice for unhoused individuals in an urban environment? In order to answer this question, ten individuals experiencing houselessness in Portland were interviewed about their experiences gaining access to water, the barriers that impeded them from accessing water, and how this impacted their lives, and the interviews were analyzed with cause-response-effect theory. I discuss the theoretical framework and current literature regarding houselessness, water access, and environmental justice in Chapter 2: Theoretical Background. The methodology used for interviews and analysis is described in Chapter 3: Methods. I describe the findings from these interviews in Chapter 4: Results. Then, I interpret these findings in regard to past literature and what themes emerged from this study in Chapter 5: Discussion. I end with concluding remarks in Chapter 6: Conclusions.

This work contributes to the scholarly knowledge base of houselessness, water access, and environmental justice. In this research, the three pillars of environmental justice (i.e., distributive, procedural, and recognition justice) were applied directly to the process of water insecurity through the cause-response-effect theoretical model, developed by Wutich and Brewis (2014). I found specific examples of each EJ pillar that the unhoused participants experienced based on definitions from previous literature. Variables were defined within the theoretical model that had not been defined in previous literature based on the participants' experiences in the study area. The COVID-19 pandemic was a barrier that emerged in the analysis that had not previously been mentioned in the literature.

2.0 Theoretical Background

2.1.1. Houselessness

Houselessness is and has been a human rights crisis for decades in the United States. Since the late 1970s and early 1980s with the decline in public housing and federal public funding cuts under the Reagan administration, houselessness and poverty increased, and affordable housing decreased (Dreier, 2004). The commodification of housing and basic resources deepens the divide between the wealthy and the impoverished. In 2022, it was found that 582,500 people were experiencing houselessness in the United States in a single night, 40% of which were living without shelter (de Sousa et al., 2022).

The United States Department of Housing and Urban Development uses the term “homeless” instead of “houseless” and defines it as a person or family who “lacks a fixed, regular, and adequate nighttime residence” which includes “sleeping in a public or private place not meant for human habitation” and “supervised publicly or privately operated shelter designated to provide temporary living arrangements” (General Definition of Homeless Individual, 2022). Those who are unhoused live in emergency shelters, tents on the streets, parks, vehicles, train stations, abandoned buildings, transitional housing, and motels, among other places (General Definition of Homeless Individual, 2022). Many non-profit organizations, researchers, and some states across the US are opting to use the term “houseless” or “unhoused” instead of “homeless”, as they aim to intentionally describe this marginalized population in a way that recognizes their humanity and to lessen stigmatization (Winetrobe, et al., 2017). Linguistically, the term “home” is attached to identity, and referring to one as “homeless” is a way of

reducing their identity as human, as someone can have a home even if they do not live in a house (Kidd and Evans, 2011). There is a historic stigmatization with the use of the term “homeless”, that not only impacts one’s self-esteem but can lead to discriminatory practices (Phelan et al., 1997). “Homeless” is also associated with other stigmatized descriptors of humans, such as “criminal”, “mentally ill”, “drug addict”, and “free-loader” (Phelan et al., 1997). I use the terms “houseless”, “unhoused”, and “housing insecure” throughout this study because the houseless advocacy community partner that informed much of this research, Sisters of the Road, chooses this terminology. This research is centered around the recognition of unhoused individuals as human beings who are not monolithic in their experiences, identities, needs, hopes, and desires. In this study, the voices of those who have been historically dampened are amplified.

2.1.2. Houselessness in Portland, Oregon

In 2022, Oregon was a state in the US with one of the highest rates of houselessness, with 34.7 unhoused people per 10,000 people per general population (National Alliance to End Houselessness, 2023). This is primarily due to the large population of unhoused in Portland, the state’s most populated city. Portland has high rates of houselessness with 51.3 unhoused per 10,000 people in the general population (National Alliance to End Homelessness, 2023). On the night of January 26, 2022, it was found that there were 5,228 people in Portland, Multnomah County, and Gresham experiencing houselessness defined by the US Department of Housing and Urban Development (Joint Office of Homeless Services, 2022). There was a 30.2% increase in homelessness during the COVID-19 pandemic in Portland, with many who were

unhoused or housing insecure saying that the pandemic was a cause of their housing insecurity (Joint Office of Homeless Services, 2022).

2.2.1. Water Insecurity

Water and sanitation are basic human rights, as declared by the United Nations (2023c). Even the most technologically advanced nations, like the United States – which is a member of the UN – fail at providing safe, secure, and affordable water for its citizens. Those without housing security tend to also have water insecurity. Not only does lack of water access harm human health, but it can also determine how a person is treated in society. Sultana (2020) states that “water access separates subjects from citizens”, which is demonstrated by the treatment of unhoused community members. There is a common misconception that everyone in the US enjoys and benefits from water security (DeMyers et al., 2017). As has been demonstrated by decades of research, it is clear that unhoused community members do not benefit from water security. Lack of access to water can lead to impacts such as a lack of access to education and health, civil and political rights, leisure activities, and information (Neves-Silva et al., 2019). Much of this is due to a lack of sanitation, where in the US society being dirty and smelly is unseemly, and unhoused individuals are not welcome in many spaces.

As the unhoused community is not a monolith, unhoused individuals experience water insecurity in widely different ways. Individuals living in emergency shelters or temporary housing are often outside during the day because they’re not allowed to stay there during the daytime or conduct much of their livelihood outside, so they must seek water outside shelters (DeMyers et al., 2017). Individuals living in riverine encampments

who are further away from services like non-profits may get their water from the river (DeMyers et al., 2017). These varied experiences of water insecurity have different impacts on unhoused individuals. When there are not enough bathrooms, unhoused individuals are constrained to relieve themselves in public spaces, which can spread infectious diseases (Capone et al., 2018).

2.3.1. Environmental justice

Environmental justice (EJ) is defined by the US Environmental Protection Agency (USEPA) as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies” (USEPA, 2023). The fair treatment of all people means that no community should be disproportionately affected by “negative environmental consequences'' (USEPA, 2023). One of the most notable examples of this is the Flint, Michigan water crisis involving toxic lead in drinking water disproportionately impacting the health of Black and lower-income community members who make up the majority of Flint (Washington and Pellow, 2019). In this EJ case, the distribution of environmental consequences (e.g., toxic drinking water) was not equitably “spread” among Michiganders, and those who suffered were historically marginalized populations. This distributive-based EJ has been a primary focus in past literature but ignores other factors that influence EJ. More recently, scholars pluralized the definition of EJ to include the concepts of procedural justice and recognition justice, in addition to distributive justice (Agyeman et al., 2016).

Environmental Justice has been commonly associated with chronic and acute toxin exposure in the environment that harms human health, as demonstrated in the

example of Flint. However, EJ scholars find that houselessness is an EJ issue and must be examined as such to address the houseless crisis in the US (Goodling, 2019). Those experiencing houselessness chronically or short-term, whether they are living in a tent on the side of the road, in a park, under a bridge, living out of a car, or using emergency shelters, are at the frontlines of environmental hazards (Goodling, 2019). An environment is a place where humans live, work, and play (Novotny, 2000). For those who are unhoused, public space is not only where they live, work, and play, but an environment where they cannot easily “escape” its hazards. Those who are housed and have housing security, are able to close their doors to public space, allowing them shelter from the weather, pollution, noise, and the public eye. Also, they typically have access to resources like clean, running water, food, temperature control, and electricity, whereas those living without a shelter on the streets have to seek out access to these resources. This study focuses on understanding how unhoused individuals gain access to water resources in an urban environment, as public services tend to be more concentrated for unhoused community members in these areas. The aim of this study is to understand how barriers and impacts to accessing water resources impede or allow environmental justice for unhoused individuals in an urban environment. In order to investigate this, past literature describing distributive, procedural, and recognition justice and houseless water access must be examined.

2.3.2. Distributive justice

Distributive justice refers to the equitable distribution of environmental benefits and burdens (Agyeman et al., 2016), which can be applied to resource insecurity of vulnerable populations. In the United States, those who are impacted by resource

insecurity most acutely are those who are unhoused or housing insecure. As basic resources required to survive, such as food, shelter, and water are commodified and costly, these resources become inaccessible for those extremely impoverished. The urgency and the critical need to improve distributive justice in the form of equitable access to basic resources is likely why many EJ and houselessness studies focus primarily on distributive justice. There is a general assumption that the advancement of technology in city planning has benefitted all people equally, however, there is a public water fountain scarcity, as water fountains tend to be built in buildings that those who are unhoused cannot easily access (Hale, 2019). Public bathrooms in the highly developed United States, too are rare, with an average public toilet index of 8 toilets per 100,000 people (QS Supplies, 2021). In Portland, Oregon where there are over 5,000 unhoused individuals (Joint Office of Houseless Services, 2022), there are only 17 toilets per 100,000 people (QS Supplies, 2021). A lack of access to public bathrooms and drinking fountains leads to exacerbated health issues in unhoused individuals, such as kidney disease (Hale, 2019), dehydration and its complications, dental problems, and mental deterioration (DeMyers et al., 2017). In cities with summer temperatures reaching over 100 degrees Fahrenheit, such as Phoenix, Arizona, houseless individuals require more water to combat heat-related illnesses such as heat exhaustion, heat stroke, heat cramps, and extreme or prolonged dehydration (DeMyers et al., 2017). When there is a lack of equitable distribution of water resources, this impinges on other factors, such as access to education, healthcare, and leisure activities (Neves-Silva, 2019). However, scholars find that even if equitable access to resources is attained, it would still not solve the houseless crisis in the United States and that procedural and

recognition justice need to be addressed (Goodling, 2019; Craven et al., 2020; Neves-Silva, 2019; Watson and Cuervo, 2017).

2.3.3. Procedural justice

Procedural justice is described as decision-making and processes that allow the freedom of movement of people, ideas, and perspectives (Walker, 2009). Procedural justice is inherently tied to space, as it allows information, access, and power of place (Walker, 2009). “Place” is described as “space infused with human meaning” (Tuan, 1979), in which those in power tend to have more control of the meaning of that space and how humans can interact with it. Those who are unhoused are limited by the procedures and processes that govern public space, as they conduct life-sustaining activities in the public eye. In the case of procedural injustice and houselessness, decision-making and processes are made that harm rather than benefit the unhoused and those living in extreme poverty, whereas the housed and wealthier community members enjoy their legal protections. The criminalization of houselessness is an example of procedural injustice, as criminalizing unhoused people restricts their freedom to move, perspectives to be seen, and access to information. Ordinances that disallow activities unhoused individuals need to do forces them to cope with scarcity and vulnerability. Camping bans, and ordinances that limit sleeping or lying in public places, loitering, or panhandling, are examples of the criminalization of houselessness, as these activities are life-sustaining for those who are unhoused (Craven et al., 2020). These ordinances, policies, and procedures claim to be for “civility”, “safety”, and “public order” to justify criminalization (Bonds and Martin, 2016). The criminalization of houselessness is a process that pushes unhoused individuals to live in dangerous living

conditions and subsequently are forcefully removed from those areas when they are deemed too hazardous to human life by local authorities (Goodling, 2019). This is an example of pushing “undesirable people” into “undesirable places”, such as brownfields, areas that are noisy, have high air pollution concentrations, and/or susceptibility to flooding and landslides, among other hazards (Goodling, 2019). Many of these places tend to be far from water infrastructure and services that are unsafe from police and vigilante violence (Goodling, 2019). There are movements in communities like NIMBY-ism (not-in-my-backyard) that aim to keep unhoused individuals and service providers away from their neighborhoods in order to maintain their property values (Bonds and Martin, 2016). This continues the cycle of pushing undesirable people into undesirable places. Other impacts that unhoused individuals experience from the criminalization of houselessness are lack of access to education, health, information, and leisure activities, and discrimination (Neves-Silva, 2019). The procedural limitations of where unhoused humans are allowed to exist put their health, safety, and dignity at risk.

2.3.4. Recognition justice

Recognition justice relates to the devaluation, degradation, and stigmatization of human life (Walker, 2009). Not only is criminalizing unhoused individuals a procedural injustice, but it leads to alienation and indignity, which are recognition injustices. This stigmatization elicits shame and the diminishment of one’s ability to exist in public space, visibly (Bonds and Martin, 2016). Unhoused community members are treated like pollution rather than humans through exclusionary measures, and disapproving stares from housed community members (Bonds and Martin, 2016). Kyle Powys Whyte

(2011) argued that “recognition justice requires that policies and programs must meet the standard of fairly considering and representing the cultures, values, and situations of all affected parties”. Though, if unhoused individuals were being considered and represented fairly, they would have their fundamental human rights met, such as access to housing, water, and sanitation, among other resources.

Distributive justice has been the primary focus of finding solutions to the houseless crisis, as on the surface it seems to be an issue of resource imbalance. However, the crisis is rooted deeper than inequitable resource allocation. Iris Marion Young (1990) claimed that distributive justice is highly emphasized in environmental justice, whereas procedural and recognition justice is overlooked. She claimed that the intersectionality of one’s identities and lived experiences must be considered to achieve justice (Young, 1990).

2.4.1. Cause-Response-Effect Framework

The framework used to address the question of whether the process of water insecurity impedes or allows environmental justice for unhoused individuals in an urban environment was the cause-response-effect framework, developed by Wutich and Brewis (2014). Wutich and Brewis (2014) used the cause-response-effect framework to understand the process of resource insecurity through structural causes of scarcity, an individual’s response to resource insecurity, and the outcomes of resource insecurity processes. Causes of resource insecurity tend to be at the community-level and are the drivers of scarcity, such as governance, markets, and entitlements (Wutich and Brewis, 2014). Responses at the household level are the adaptations that those experiencing resource insecurity use to cope with scarcity, like migration and modification of

consumption (Wutich and Brewis, 2014). The effects are the impacts of resource scarcity at the individual level, such as emotional distress from the uncertainty or unpredictability of accessing resources (Wutich and Brewis, 2014).

Later, DeMyers, Wutich, and Warpinski (2017) applied this framework specifically to water resource insecurity. I drew upon DeMyers et al.'s (2017) adaptation of the cause-response-effect model, which analyzes water insecurity through three variables: sources, barriers, and impacts. Sources refer to water sources being used by those experiencing water insecurity, such as bottled water, public water fountains, and surface water (DeMyers et al., 2017). Barriers are impediments to gaining access to those water sources like accessibility, ill health, hygiene stigma, and pollution/contamination (DeMyers et al., 2017). Impacts are how one is affected by the barriers to trying to access water sources, for example, heat-related illness, death, lack of cleanliness, and mental deterioration (DeMyers et al., 2017). In the study (DeMyers et al., 2017), it was found that water insecurity differs from varying economic sectors of those who are experiencing housing insecurity, such as those living with no roof and those living in an emergency shelter. Thereby, the process of water insecurity is dependent on the economic status, living conditions, and situations of each individual experiencing houselessness.

The aim of this study was to break down each component of the water insecurity process by sources, barriers, and impacts to examine the environmental (in)justices of water insecurity within these processes. As I utilized DeMyer's et al.'s (2017) theoretical framework for the foundation of this study, I expanded on the definitions of each source,

barrier, and impact in accordance to the study area and the experiences of the unhoused participants. I define each variable below.

The “cause” factor in the cause-response-effect model, refers to the drivers of resources scarcity (Wutich and Brewis, 2014). DeMyers et al. (2017) applied “sources” in place of “cause”, as the water resources being used by unhoused participants are scarce. The sources that were used by unhoused participants in Portland were public bathrooms, drinking fountains, stored water, non-profit water, and private water. I defined each of these as they fit with the unhoused community living in Portland, Oregon. Public bathrooms are Infrastructure funded by taxpayers to allow users access to water for bathroom, hygiene, or drinking (e.g., Portland Loo, Port-a-potties, library bathrooms). Drinking fountains are infrastructure that allows users access to water for drinking (e.g., Benson bubblers). Stored water is the usage of containers to stock water (e.g., gallon jugs, water bottles). Non-profit water is infrastructure or supplies that allows users to access water for drinking, bathroom, hygiene, and/or laundry. Private water is infrastructure or supplies funded by private sources to allow users access to water for bathroom, hygiene, laundry, and/or drinking (e.g., homeowners, restaurant bathrooms).

The “response” variable in the cause-response-effect model is referred to as “barriers'' by DeMyers et al. (2017) in terms of water insecurity. Barriers impede access to water. The barriers in the study area that the unhoused community experienced were health, financial, safety, houseless stigma, criminalization of houselessness, infrastructure, and accessibility. I defined each of these barriers to accurately examine them with an environmental justice lens. Health barriers are illnesses, or physical or mental impairment due to illness or disability that impedes access to water (e.g.,

disability, infection). Financial barriers are an impediment of access to water due to monetary limitations (e.g., need to be a customer to use a bathroom in a store). Safety barriers are real or perceived danger of one's wellbeing that impedes access to water (e.g., threat of police violence keeping someone from trying to access water). Houseless stigma as a barrier refers to the impediment of access to water due to real or perceived social perceptions of the unhoused (e.g., choosing not to go in a restaurant for a glass of water or to use the bathroom because of fear of how they will be perceived or treated by patrons or workers in the restaurant). Criminalization of houseless barriers are the impediment of access to water due to laws, rules, ordinances, or police/security disallowing access (e.g., trespassing, loitering, park closures). Infrastructural barriers are the impediment to water resources due to lack of infrastructure built. Accessibility barriers refer to impediment to water infrastructure due to societal norms or behaviors (e.g., locking a public bathroom at night).

In the cause-response-effect model, “effect” was applied by DeMyers et al. (2017) to the process of water insecurity as “impacts”. Impacts are the consequences of barriers to accessing water. The impacts that were defined and examined in the community for this study were health, hygiene, financial, mental deterioration, and destroyed, lost, or stolen personal belongings. Health impacts are a decline in physical well-being as a consequence of a barrier (e.g., urinary tract infection as a consequence to dehydration or lack of access to bathrooms). Health impacts are different from health barriers as they are a result from a barrier, rather than a previously existing health condition impeding access to water. Hygiene impacts are the results from not being able to maintain sanitary conditions of the body from water insecurity. Financial impacts were

expenditures, fines, or other loss of income due to lack of water access. Mental deterioration impacts refer to a decline in mental health due to a lack of access to water. Destroyed, lost, or stolen personal belongings impacts are a result of impediment from access to water (e.g., unable to maintain cleanliness of clothes and needing to dispose of them).

I also explored the complexity of the water insecurity process by examining the connections between sources, barriers, and impacts. I expected to find several connections between water sources and barriers, as DeMyers et al.'s (2017) work demonstrated that one water source can have many barriers. Also, I expected to see one or more impacts for each barrier. For example, someone trying to access water from a public drinking fountain may experience barriers such as accessibility, infrastructure, or COVID-19 barriers. In this hypothetical scenario, a water fountain may not be built with the intention for someone who has a mobility impairment, there may be no water fountains in the area, or the water fountains may have been shut off due to the city's response to the COVID-19 pandemic. These barriers could impact one's health mentally and physically and lead to poor hygiene.

3.0 Methods

3.1.1. Positionality Statement

As I conducted this research and aimed for the recognition, distributive, and procedural justice within the study itself, I was limited by my lived experience. I am white and have benefitted from the privileges of my race and middle-class generational wealth most of my life. I have been housing insecure in limited capacities, and never chronically, as most of the participants I interviewed experienced. During the periods of

housing insecurity, I was able to find shelter with friends, family, or a partner, for which I am grateful. I am queer, gender non-conforming, neurodivergent, and disabled. These identities inform much of my perspective of injustices.

3.2.1. Site Selection

Four criteria emerged from the literature above: services (e.g., showers, shelters, food, laundry, health), water access (e.g., drinking, showers, laundry, cleaning), urban location (e.g., a city or town), and local governance (e.g., policing, rules, laws, unofficial policing of use of space).

In order to understand how the process of water insecurity in urban areas interferes with or enables environmental justice of unhoused access to water in Portland, there were several factors for determining study site selection. The factors included an urban environment, water services in the region, and the unhoused community. The area selected for the study was in Old Town Portland, Oregon near the Sisters of the Road Cafe (SOTR) because it met all the study site selection criteria. It was an ideal location for the study because it is an urban location, one of the main service providers for unhoused community members in the area, has several public water fountains and restrooms nearby, and is located within an enhanced services district (ESD), which has unique local governance, and large security and police presence.

3.2.2. Community Partner

Sisters of the Road Cafe (SOTR) is a social justice organization in Portland's Old Town/Chinatown neighborhood working to create systemic change that will end poverty

and homelessness. The organization was founded in 1979 and historically operated a nonprofit cafe with barter work opportunities for those who could not afford the modest meal price. Indoor meal service was halted at the start of the COVID-19 pandemic in March 2020 and has not continued since. Most of the services in the area, public water, public bathrooms, and private business fronts were closed during the COVID-19 pandemic which affected houseless access to water in this area. The organization also focuses its efforts on houseless advocacy in local legislation, research, and community outreach. Sisters of the Road was a partner in conducting this study, as they aided in the recruitment of participants, many of which work at the organization. Their building was the central location for this study as many of the participants in the study live directly outside or nearby the building on the sidewalks.

3.2.3. The Neighborhood

There are several houseless services and organizations near Sisters of the Road Cafe in old-town Portland such as Union Gospel Mission and Blanchet House. There is a park one block away that has a public bathroom and a water fountain, and a Benson bubbler (water fountain) diagonally across from the street from the SOTR building. There is also a train station and bus stop directly across the street from the building, which makes it a major transportation hub. SOTR lies within the Downtown Clean & Safe ESD, which influences public governance of the area and allows investigation of how it can interfere with or enable recognition justice for unhoused water access for this study.

During the period of this study there was a small community of unhoused individuals living on the sidewalks primarily living in tents on NW Davis Street between NW Broadway and NW 6th Avenue.

3.2.4. Water in Portland

Portland has unique water fountain fixtures called Benson bubblers (see **Figure 1**), which were designed to be free, clean drinking water access for the public. Twenty Benson bubblers were first built in 1912, and in 2023 there are 120 Benson bubblers spread throughout the city. The Benson bubblers are made of brass, are at the waist-height of an average, abled-bodied adult, and vary from one to four water spouts per fountain. They are intended for an abled-person to be bend down to the level of the basin and sip from the water bubbling out of the spigot. They continuously run fresh water from 6am to 11pm at night throughout the year, though they are temporarily shut down during cold snaps (City of Portland, 2023). The bubblers were shut-off citywide for at least a month at the start of the COVID-19 pandemic in early 2020 (Gormley, 2020). There are other modern-designed water fountains at some parks, but they are less common than the Benson bubblers.

Portland has a free, unique public bathroom system called the Portland Loo (see **Figure 1**) that other states like California, Washington, Texas, Colorado, and New York are beginning to adopt (Miller, 2023). They are designed to be “durable, inexpensive, and crime-free” according to Madden Fabrication, the company that designed the Portland Loo (The Portland Loo, 2023). The Portland Loo is a permanent bathroom structure with one toilet basin, one sink, and one urinal, typically. The Portland Loo is a long, gray, oval structure made of metal with grates that open to the outside on the

bottom and the top of the structure while providing privacy with solid walls in between the grating (see **Figure 1**). They have a door that locks, as well as a spigot on the outside of the structure for one to fill bottles or jugs with potable water. The structure is designed to deter crime by allowing authorities to easily ascertain whether or not someone is using it by looking through the grating at the bottom and motion-sensor that detects if someone is inside (Miller, 2023). They also use sleek metal walls and a coating that makes paint difficult to stick to, which deters graffiti and vandalism (The Portland Loo, 2023). In order to prevent needle drug-use in the structure, there are blue lights installed, which make it difficult for a person to see their own veins (Miller, 2023). There are 9 installed in downtown Portland, with one that was easily accessible to the participants interviewed two blocks away from Sisters of the Road. There were also port-a-potties placed around Portland, which are temporary bathroom structures, first introduced during the beginning of the COVID-19 pandemic in order to alleviate the needs for bathroom access for the unhoused when businesses and public facilities were shut-down (City of Portland, 2020). Non-essential businesses and public facilities were mandated to close on March 26, 2020 in order to prevent the spread of the COVID-19 virus (Executive Order No. 20-12, 2020), from which over 1 million Americans died since the beginning of the pandemic in late March 2020 (Centers for Disease Control and Prevention, 2023). Despite water and wastewater systems being a critical infrastructure sector mandated to stay open during the closures, this did not necessarily include public bathrooms.

Showers and laundry services are provided by many non-profit organizations in the area, such as TPI (Transition Projects Inc), Red Doors, JOIN, and Union Gospel

Mission (UGM). Sisters of the Road and Blanchet House do not have shower or laundry facilities, but they provide resources including drinking water and bathrooms.

The private water in the area consisted of store and restaurant bathrooms, such as Safeway, a grocery store that allows the public to use its bathroom. Most of the private bathrooms in businesses require one to be a customer. This entails needing to have the financial means to purchase something from the business, whether it is items or services. Many businesses have signs in the windows saying “no public bathrooms” or “bathrooms for paying customers only”. During the COVID-19 pandemic, most of these businesses were closed due to federally mandated quarantine.

Figure 1: (Left): A traditional Benson bubbler with four spigots and bowls. It has a traditional design and is primarily made of brass. (Right): The Portland Loo at Elephant Park two blocks from Sisters of the Road. This free bathroom is designed to reduce crime.

3.3.1. Data collection

Semi-structured interviews were used with a questions guide that the interviewer followed reflexively (see **appendix**). The questions were open-ended to allow the participant to tell stories with thick narratives about their experiences gaining access to

water and what kind of barriers and impacts they experience from doing so. For example, "How has COVID-19 changed where you get your water from?" allows for the participant to describe what gaining access to water was like before the COVID-19 pandemic that began in March of 2020 and how their access to water was impacted after the pandemic began.

3.3.2. Walking Interviews

Walking interviews were the methodology used in this study. Walking interviews are conducted by walking with the participant from a specified starting point in the direction of their choice while interviewing them. This method allows for a rich, space-centered narrative, and provides the researcher opportunities to collect other types of data, such as photos and GPS points. Walking interviews allow the participant to be inspired by the space that is familiar to them throughout the interview, and provides space-based examples as they pointed out water sources and answered the interview questions. The interviewer can also see participants' real-time reactions to questions, objects, or space. This method was also chosen because it allows participants to feel more comfortable with the interviewer, as the power dynamics between interviewer and participant may impact what the participant feels comfortable sharing (Evans and Jones, 2011). In a traditional interview setting, an interviewer and a participant are sitting in a room with a desk across from them, in which the interviewer asks questions that the participant answers. The interviewing room is often unfamiliar to the participant, automatically providing the interviewer with more power than the participant through the familiarity of the space. The walking interview methodology places the interviewer in the physical space of the participant, with which the interviewer

is typically unfamiliar, allowing the participant to have more power through familiarity. In hopes to shift the power dynamics of the participant and interviewer through physical space, the participant would likely be more comfortable answering questions.

The walking interviews took place outside of the Sisters of the Road cafe, with the starting location almost always being at the cafe, with the exception of one interview starting two blocks away. However, most of the participants lived in tents and makeshift shelters outside of the cafe on the sidewalk and did not want to leave the vicinity of their shelter due to fear of their belongings being stolen. Despite this challenge, the interviews were conducted in the space that the participants live in and were near spaces where they access water.

The majority of the interviews (8 out of 10) were conducted by sitting outside the participants' shelter on the sidewalk. Twelve interviews were conducted from May 2022 to August 2022 and lasted from 30 minutes to an hour. The weather ranged from cold, windy, and rainy to extremely hot and sunny, which was challenging to conduct interviews outside. The weather limited the days and times that interviews could be conducted, as it was not safe or comfortable to conduct interviews in the heat, rain, or cold. Most of the interviews were conducted around lunchtime when lunch was being served at SOTR and participants could be recruited.

3.4.1. Participants

In order to conduct interviews with unhoused participants, I completed the Collaborative Institutional Training Initiative (CITI) Responsible Conduct of Research Course (Record ID: 46488973) and the Human Subjects Research Basic Course (Record ID: 47767522). I applied and was granted permission to conduct interviews by

the Portland State Institutional Review Board (Protocol #227657-18, "Houselessness Water Insecurity Project).

The criteria for the participants of this study were their age (i.e., 18 years or older), experiencing houselessness or housing insecurity (e.g., living in emergency shelters, tent/temporary structure, vehicle, couch-surfing, or no roof), and access to water in enhanced services districts. The majority of the participants chosen to participate in the study were men (i.e., 6 out of 10), as this is representative of the unhoused demographics in Portland (i.e., two-thirds of the unhoused population in Portland are men). Most of the participants lived in tents or temporary structures directly outside SOTR and one participant did not have any shelter. Several participants had access to friends or family members' housing and were able to take showers or occasionally seek refuge there. The majority of participants used SOTR and other nearby non-profits for services. Several participants had jobs, some of them working with local houseless advocacy non-profits (e.g., SOTR and Street Roots).

The participants were recruited primarily through SOTR. Workers at SOTR assisted in recruiting participants by asking individuals they knew who qualified to participate in the interviews. Two of the participants worked at SOTR and were unhoused at the time of their interviews. Participants were typically recruited at the lunchtime service that SOTR hosts for unhoused individuals to get a free lunch. The lunchtime service is held outside the entrance of SOTR, where the SOTR workers and myself asked individuals there for lunch if they wanted to participate in the interviews. We introduced ourselves, and explained the purpose of the interviews, the interview process, and compensation for participation. For those who agreed to participate, I went

over a consent form in detail about the interview process prior to the interview. The consent form details the data to be collected, how the data will be processed, who has access to the data, how the data will be used in the future, and how the privacy of the participants will be protected. The participants had the option to consent to the type of data being collected (i.e., audio, GPS, and photos). If the participant did not consent to certain types of data being collected during the interview, we did not collect that type of data. If the participant did not consent to data collection, only notes were written during the interview. If the participant consented to participate, they signed the consent form. The consent forms were kept in a locked office on campus in order to protect the privacy of the participants. The participants were allowed to stop the interview at any time, scratch anything from the record they didn't want to be used in the analysis and could withdraw their entire interview if requested. At the end of the interview, participants were compensated with a $25 Visa gift card and up to four items they could choose from a care kit. The care kit contained items such as socks, instant coffee, electrolyte flavor packets, hand warmers, hand sanitizer, granola bars, toothbrushes and toothpaste, and menstrual products. The total supplies a participant could take were valued at $8. The total compensation including the supplies from the care kit and the Visa gift card was $33.

3.5.1. Data

The data collected during the interviews included audio recordings, pictures, notes, and GPS data, when participants consented. Only one participant did not consent to audio recordings, in which the data was collected by taking notes. Audio recordings were taken via a digital recording device during the interview and transcribed

for coding. The data from the recording device was uploaded to a Google Drive that only the principal investigator (Melissa Haeffner), research assistant (Mae Soward), research advisor (Sarah Carvill), and I could access. The data was uploaded to Otter AI, a transcription software, and was transcribed from audio to text. The text files were uploaded to Google Drive to be edited and finalized by the research assistant and myself. Once the transcriptions were edited and finalized, they were deleted from Google Drive in order to ensure the privacy of the participants. Photos were taken of the surrounding area and water sources. GPS was taken on my personal cellphone using the Avenza app, which tracks the route traveled during the interview. GPS coordinates were not shared with anyone except the community partner, SOTR in order to protect participants and their resources. Photos were not taken of the participants or other people in order to protect their identities.

3.6.1. Analysis

The transcriptions of the interviews were coded by hand, in two passes. *A priori* codes were developed from the literature review and used for the first pass of analysis. Some of the codes during the first pass included variables such as water sources, barriers, and impacts and subcodes such as water fountains, private water, health barriers, and financial impacts. During the first pass of coding, these *a priori* codes were examined by identifying any recurring words or phrases in the interviews in order to determine emerging themes that were re-examined in the literature before the second pass of coding. While coding the interviews, memoing was conducted and notes were taken to summarize findings.

4.0. Results

The themes that were investigated in the interviews were water sources, barriers to accessing water sources, impacts from lack of access to water, and environmental justice. Each of these major themes included sub-themes in order to narrow the scope of analysis (see **Table 1**).

Water sources	**Barriers**	**Impacts**	**Environmental Justice**
Water fountains	Health	Financial	Distributive
Public bathrooms	Financial	Social	Procedural
Private water	Safety	Mental deterioration	Recognition
Non-profit water	COVID-19	Poor hygiene	
Water storage	Houslessness stigma	Destroyed, stolen, or lost personal belongings	
	Criminalization of houselessness		
	Infrastructure		
	Accessibility		

Table 1: The codes (themes) and subcodes (sub-themes) that were used for analysis during first and second passes.

4.1.1. Sources

The sources refer to water sources that were used by participants. The water sources that were important to unhoused participants were water fountains, public bathrooms, water storage, non-profit water, and private water. Each water source is explored in more detail in the following sections.

4.1.2. Water Fountains

Several participants described using one particular Benson bubbler, across the street diagonally from Sisters of the Road. Due to proximity to them, this was one of the

most used fountains in this community. They discussed the taste of the water from the fountains, the shut-offs during COVID and weather events, an inadequate amount of fountains throughout the city, and an inequitable distribution of fountains. Several participants talked about the Benson bubbler shut-offs for many months throughout the beginning of the pandemic and becoming reliant on other water sources, such as volunteers who came by and dropped off bottled water (P1, P3, P4, P7). P4, P8, and P10 describe the bubblers getting shut-off during extremely cold events in order to prevent pipes from freezing. The city water was described as distasteful or perceived as undrinkable by several participants (P2, P3, P10), so they avoid drinking from the fountains. Many reported telling a difference between taste in fountain water from one fountain to another (P4, P5, P6, P7). Although, one felt as though they do not have much of a choice where to get their water and will take any water they can get, despite the poor taste (P1).

4.1.3. Public bathrooms

Participants described the Portland Loo as “unsanitary” (P1), “sometimes locked” (P2), and reported that they often experienced long wait times due to users either taking long periods of time and/or large number of users waiting ahead of them. P6 described having to regularly wait 5-10 minutes to use the Loo when they were in immediate need of using the restroom and being extremely uncomfortable. P7 didn’t want to use the Portland Loo due to criminal behaviors such as sex work happening in them and finding used condoms littered on the floor. P3 said that they refused to use the Portland Loo due to its unsanitary conditions. In order to cope with the unsanitary conditions, one participant (P1) described taking their own cleaning supplies with them whenever they

use the Portland Loo so that it may be clean enough to use, however, not having a clean surface to place their belongings while they cleaned. They would often wear a backpack with their belongings while cleaning to prevent them from getting stolen and dirty. P4 also described the weekend as being the most difficult time to use public restrooms like the Portland Loo because they are not cleaned or stocked with enough toilet paper.

> *"They're really dirty. And me being, you know, a germaphobic...germs--I don't like. You know, I'm a clean person. I like to be clean. I like to, you know, walk into a public restroom or a Portland Loo and be able to, you know, have toilet paper or have sanitation to cleanse my, you know. But usually, no, the bathroom's not clean. And it's usually during the weekends where it's the roughest 'cause they don't work weekends." (P4)*

A participant (P10) found that Portland Loos were often locked when no one was inside them.

> *"...How many times have you gone to the Loo and the Loo is locked and no one is in there?...and then they wonder why there's feces and people who are defecating and peeing on the ground and everything while you're locking the public bathroom." (P10)*

Participants described that the port-a-potties were "commonly vandalized" (P1), "too dirty to use" (P1), or "not properly stocked" (P1).

Most participants state that there are not enough bathrooms available, which means that it takes them a very long time to find a clean, unlocked, available bathroom.

> *"When I'm efficient and nobody stops to say hello…you know, let's see, like maybe a four minute walk. That one might be five minutes. Somedays…there are*

> *days when I dedicated an hour or more to just use the bathroom, sometimes two hours. And on a great day, you get there and it's already clean and I can get back to my tent within ten minutes. And that's an opportunity for thieves." (P2)*

> *"Sometimes you'd be waiting out here for like 20, 30 minutes because either somebody's in the bathroom taking too long, or they're either like, you know, overdosing or falling out on drugs." (P4)*

4.1.4. Water Storage

Water storage was another important source of water to participants. While conducting interviews, I observed many participants harboring several large 6-gallon jugs of water in their tents. The participants described the communal aspect of water storage, using the Portland Loo to fill their jugs of water (P2), rats destroying their water jugs (P5), and the cost of water bottles and jugs (P1, P3). P5 detailed how a rat infestation in their tent destroyed the majority of their water storage and they were forced to move from the area due to the damage.

The participants described the communal aspect of water storage, using the Portland Loo to fill their jugs of water (P2). Several participants discussed how they will fill water jugs or bottles for their unhoused neighbors, and using much of their stored water for pets (P1, P2, P3, P4). One participant described taking public transit several miles across Portland to buy cases of water, which cost them about $80 per month (P3). P1 used food stamps to buy jugs of water for storage that would last them several months until they needed to replace them after the plastic was worn out. One participant mentioned that it took a long time to fill water jugs using the spigot at the Portland Loo:

> *"And it takes forever to fill that thing up when I have to use that. It takes about 10-15 minutes per milk jug and there's eight milk jugs per gallon, I mean per section there. And they're just regular standard gallon-sized milk jugs." (P2)*

4.1.5. Private Water

Usage of private water was not commonly discussed. This is likely due to the shut-down of many businesses during the COVID-19 pandemic. However, some participants discussed using a housed friend or family member's bathroom on occasion (P5, P7). In one case, a stranger offered the shower in the bathroom in their home to a participant in order for them wash up (P6). One participant described using the Subway bathroom frequently because they had a friend who worked there, however, their friend would warn them against using the bathroom (P5).

4.1.6. Non-Profit Water

Non-profit water was a significant water resource for participants, as all participants discussed this source frequently.

Participants describe non-profit shower facilities as unsanitary (P1, P7), characterized by long wait-times (P6), and sometimes unsafe due to violent interactions between those using the facilities (P1). At TPI, the shower facilities are akin to "jailhouse showers" (P7) in which one pushes a button for the water to turn on and automatically turns off after 10 or 15 minutes (P7, P8). The TPI showers are not cleaned after each user, which makes dirt and grime accumulate, becoming "foul" to users (P1, P7).

> *"Showers are a joke. So is laundry. Got to go down to TPI. For me to get showered at around eight o'clock in the morning, I gotta get there somewhere around six. Same thing with laundry. Only allowed to do laundry once a week at TPI, shower every other day." (P6)*

One participant (P3) discussed using mobile showers funded by UGM. The mobile showers are truck trailers with two shower stalls built in with enough hot water to run 15-20 showers per day (citation). P3 described having to wait to use the mobile showers for up to two hours and hearing about when and where the showers would be available by word-of-mouth. This made it difficult for the participant to have a predictable showering schedule when trying to use this service.

Non-profit laundry services were unreliable for many participants because they were only allowed to use the laundry services at TPI once a week (P6), and there were few laundry services provided by other non-profit organizations (P1). A participant found a program by Union Gospel Mission helpful, in which unhoused individuals were given a ride to laundromat and laundry services were paid for by the non-profit (P1).

4.2.1. Barriers

Participants described many barriers that kept them from being able to access water, including health, financial, safety, COVID-19, houseless stigma, criminalization of houselessness, infrastructure, and accessibility.

4.2.2. Health

Several participants had described difficulty accessing water due to health and “fatigue” (P1, P3). One participant (P1) self-reflected on their access to water and sanitation being challenging, and being able-bodied and having few health issues. They questioned what others experiencing houselessness who are not able-bodied, sick, or experiencing mental health problems would do to access water and sanitation and the significant challenges this could pose them.

> *"So I'm pretty independent and if I have physical ailments, they're not completely disabling. So, if I'm struggling to stay on top of it and achieve baseline level of cleanliness...it's gotta be exponentially worse for an individual or individuals who are having accessibility issues, mobility issues, whether mentally or physically. Maybe they're having life issues where they go get their water their stuff is all going to get stolen by the time they get back to their tent...I find it challenging and I can usually get shit done. But, if people are having more difficulty, what the fuck do they do?" (P1)*

4.2.3. Financial

Financial barriers are impediments to accessing water and sanitation due to monetary limitations. For example, one may not be able to purchase water because they do not have the funds to do so. A participant (P3) described needing money to use bathrooms or getting water in private businesses because most businesses require one to be a "customer" in order to use their facilities or a drink of water.

> *"Unless you've got money all the time and go into some of these businesses and they won't even let you. And half of them don't even have [a bathroom] anyways. I don't know what they expect everybody to do anyways." (P3)*

4.2.4. Safety

The safety barriers that one participant (P7) discussed were related to the Black Lives Matter protests in the summer of 2020 when police were using tear gas against protesters. These events made it more difficult to access water because of the limitations in movement in public spaces.

> *"I kept begging, 'Please don't set a firebomb off over here, please don't set off no kind of fucking gas over here. I gotta live here.' Yeah, that shit got goin'." (P7)*

4.2.5. Houseless Stigma

P4 discussed a group of people called NIMBYs (Not-in-my-backyard) who have negative perceptions of unhoused individuals and the discriminatory actions they would conduct against them. They described how this behavior would make it more difficult to use the public restrooms.

> *"For a while, there was a bunch of NIMBYs that would come and break the brick keys off inside of it after they'd lock it to make sure nobody can use it, or get all the toilet paper wet. You know, foul stuff that people do." (P4)*

4.2.6. Criminalization of Houselessness

Criminalization of houselessness occurs when unhoused peoples are disallowed from public spaces or life-sustaining activities in public spaces. P5 described not being allowed to conduct activities or exist in spaces where public water was available because of their housing status, which made it more difficult to access water and sanitation facilities.

> *"When I first started hanging out down here, if we were sitting in the waterfront on a blanket, it was considered camping and they would excuse you from the park...They just screwed us, right? Well, then you look over there and there'd be a family of four sitting on a blanket and they'd be just fine." (P5)*

4.2.7. Accessibility

Most participants described the bathrooms as not accessible due to lack of cleanliness or maintenance (P1, P3, P4, P6, P7, P8, P10). One participant (P1) shared that they clean the Portland Loo with their own cleaning supplies before using it when it's too dirty to use.

> "So yeah, I used to have a nice little bag set up for myself when I came to the west side. Like, you know it's gotta have cleaner, plenty of paper towels, plenty of…you know, like an extra bottle of water for…usually I bring a broom." (P1)

Participants (P4, P8) also discussed the bathrooms not being accessible because they were locked or closed, either at certain times of the day or certain times of the year. P8 referred to the Portland Loos being routinely locked at night. This made it challenging for unhoused individuals to have access to these bathrooms at night.

> *"The Portland Loos are done by rangers that get locked that one out snail park at nine o'clock at night and will not unlock it until nine o'clock in the morning." (P8)*

P4 talked about water infrastructure being built throughout the city, yet the societal norm and laws that protect private property restricts access to those needing water to meet their basic needs.

> *"...You'll go like four or five blocks without even a single, you know, accessible water. And then people building, you know, people who own buildings, and they have their, like, water hose connected to their buildings and stuff, and they're really anal about people, like, using their stuff. So, you know, there's that aspect of like, you know, people are trying to survive, and they're like, basically holding that hostage against us. So, we don't have access to it, which, in all reality, it's not fair. But, technically, we don't have the permission to just do it, but, you know." (P4)*

P8 discussed the barrier to accessing water in emergency shelters they stay in at night, as most of them are closed during the day, and they have to seek water sources elsewhere.

> *"How about shelters that have been opened up from people, but you can only be there certain times, like last five o'clock at night or 9:30 at night to 5:30 in the morning, then you get kicked out during the day. How are you supposed to be able to regulate yourself?" (P8)*

4.2.8. Infrastructure

Participants (P1, P3, P4, P7, P8) described there not being enough public bathrooms downtown. They described having to often wait for bathrooms because they were occupied.

4.3.1. Impacts

The impacts that participants discussed were health, financial, hygiene, mental deterioration, and destroyed, lost, or stolen personal belongings. Each impact is explored in more detail in the following sections.

4.3.2. Health

One participant (P2) described getting sick from not being able to maintain their hygiene.

> *"It about killed me this last spring. Last spring, I was real sick. I came down with a severe bladder infection because I couldn't keep myself clean."(P2)*

Another participant (P1) discussed that one of the most important things to them in getting access to water was being able to wash their feet. They referred to getting infections and having other health issues from not being able to keep their feet clean.

> *"...having a regular consistent way to take care of your wet feet [is the most important]. That affects a lot of us, too…they can get a lot of infections…it's really crazy how many health issues can come from the feet." (P1)*

4.3.3. Financial

Two participants (P3, P7) described spending money on bottled water because they didn't trust the water coming out of the drinking fountains. P7 referred to spending $100 per month on water, whereas P3 estimated that they spent $80 per month. However, other participants said they used their food stamps to purchase bottled water (P1, P4, P7).

> *"Yeah, so you use your food stamps and that shit adds up. You know, what you spend all your money on is mostly water. You know, we cook with it, we drink it. I got a stove at home and I fill it with one of the bottled waters." (P7)*

4.3.4. Hygiene

During the beginning of the COVID-19 pandemic when drinking fountains were shut off, and public and private bathrooms were closed, participants described a decline in their hygiene due to lack of water access (P1, P2, P3).

> *"I got really dirty and I got really dehydrated…and then basically said fuck it. Excuse my french, but…I said fuck it, if I'm an animal, OK. But I wasn't going indoors anyway…." (P1)*

4.3.5. Destroyed, Lost, or Stolen Personal Belongings

Participants (P1, P3) discussed the lack of laundry services and ability to wash clothing led them to use "clothing recycling" instead, where they give their dirty clothes to a non-profit or throw them away and get new clothing.

> *" Laundry…good luck. Um, there are some minimal efforts toward laundry. In most cases, it's clothing recycling. You can't wash your own clothes and keep your own clothes. You give away your clothes and get new clothes. And you'd feel rest-assured that clothes that you hoped to keep, somebody else got to keep and they'll be clean now." (P1)*

Participants (P1, P2) talked about having their belongings stolen from their tent while they were accessing water (e.g. going to the bathroom or filling up water bottles at a fountain). They said the longer they were gone from their tents, the opportunity others had to steal their things.

4.3.6. Mental Deterioration

Fatigue can be a sign of mental deterioration, in which one participant discussed (P1). They claimed to prefer not to be near many services because it was more difficult to sleep at night, due to the ambient noise. Consequently, this would make them fatigued and unable to perform well at work, which could risk their job security. The lack of services throughout the city concentrates unhoused individuals in certain areas where those services exist. Much of these services are water and sanitation access provided by non-profits. In these areas, it tends to be noisier and more difficult to get rest, which is needed in order to maintain one's mental health.

> *"...for me I've been living outdoors for most of the last 11 years. And generally I'm not a service recipient. Generally, I've been employed. When you have a job you're unable to receive the services because the hours don't work with your work schedule. So, I've been a service avoider. And purposely so because I'm living in an area with fewer services, I'm more likely to sleep well at night and not lose my job because of fatigue. And I understand that—that's a very politicized topic…I think anyone who needs services needs the access, but it very much*

> *changes the social atmosphere and is not great for sleeping at night, in my case." (P1)*

Another participant (P3) discussed spending much of their time trying to access water and sanitation, which led them to feel more tired. A third participant (P4) talked about feeling weak and vulnerable when they get dehydrated, which lowered their mental health.

4.4.1. Environmental Justice

There were some themes that emerged, not from the content of what participants described but *how* they described them. For example, not only did the participants discuss the lack of access to water and sanitation, but how it affects them in ways that housed community members do not experience on a day-to-day basis. The themes that emerged during coding analysis were themes of environmental justice. Environmental justice is defined by the United States Environmental Protection Agency as:

> *"The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." (United States Environmental Protection Agency, 2023)*

With this definition, the three pillars of environmental justice were applied to this analysis as these themes emerged among the data. These three pillars are distributive, procedural, and recognition justice. Each of these themes are explored in detail in the following sections.

4.4.2. Distributive Justice

Distributive justice is defined as "equitable distribution of environmental burdens and benefits across a community" (Agyeman et al, 2016). When applying distributive justice to water insecurity, I analyzed the environmental burdens that unhoused participants endured from a lack of access to water. This was demonstrated in several cases. The most common case was the lack of access of water and sanitation services and infrastructure. Most participants (P1, P3, P4, P7, P8, P9, P10) noted that there are not enough bathrooms, water fountains, and laundry services to maintain health and cleanliness of the body. Not only did the participants discuss the lack of access to water and sanitation, but how it affects them in ways that housed community members do not experience on a day-to-day basis. Participants (P1, P2, P9) discussed health impacts that are common when there is a lack of access to water and sanitation, such as infections and dehydration.

> *"It was when it hit 117 [degrees Fahrenheit] was a problem. During the summer, last couple of summers, when it got really super hot. Thank God for charity just to give water out. It wasn't for them, a lot more people would have died, easily. Because getting a hold of water is really... Like, there's a fountain over there but it's only a fountain." (P6)*

Comparing how water resources are distributed in society, to the detriment of the unhoused, is a form of distributive injustice that stood out in the interviews.

4.4.3. Procedural Justice

The definition of procedural justice that was used to analyze this emerging theme was decision-making and processes that allow the freedom of movement of people,

ideas, and perspectives (Walker, 2009). This was demonstrated in the interviews when participants discussed not being able to access water because their movement and life-sustaining activities were restricted in public spaces. P10 discussed being kicked out of areas when they were trying to get water or use bathroom facilities by security. The locking of bathrooms at certain times of the day is another example of procedural injustice that unhoused participants discussed, as it limits their ability to use the bathroom and wash their hands.

4.4.4. Recognition Justice

Recognition justice involves fairly considering and representing the cultures, values, and situations of all affected parties (Whyte, 2011). Recognition justice in terms of water insecurity is demonstrated through a lack of dignity and respect of unhoused persons. One participant (P10) discussed feeling humiliated while menstruating because it was difficult to find bathrooms to maintain their hygiene. Another participant (P1) discussed the lack of empathy housed individuals have toward unhoused community members and understanding their needs for water and sanitation access.

> *"Yeah and it seems like the housies don't have any empathy for us. Yeah, sorry, I call you guys housies because, yeah, we're housed too, in a different manner. Housies are the ones with an apartment and the yards. A place to actually close doors to the world. We have listened to it all day. Even with this little pinch of light, we have to listen to it all day. You guys got windows, doors to close and turn air conditioners on. We have to suffer with our sweat. Because, you know, housed people could lend a small hand. One or two gallons per location, you know, that's all we need…Okay, one or two gallons of water per tent at the most for 99 cents or a buck...you'd be surprised how far a gallon of water goes. A gallon of water can keep us clean and the environment healthy and fresh and we can cope with it. We can water our pets with it." (P2)*

Also, unhoused community members discussed experiencing recognition injustice frequently through the lack of access to a clean bathroom (P1, P3, P4, P6, P7, P8, P10). P1 described having to bring their own cleaning supplies and clean the bathroom themselves before being able to use the bathroom in order to maintain dignity and comfort.

The idea that the "housies" have a separate identity and that this separation is the root cause of discrimination is a form of recognition injustice. In terms of water insecurity, it is demonstrated through a lack of dignity and respect for unhoused persons.

5.0. Discussion

5.1.1. Unjust Methodologies

In order to investigate the environmental (in)justice of unhoused water insecurity in urban environments, walking interviews were proposed and attempted for data collection. However, walking interviews did not work in practice with almost all participants (except P1 and P3). The walking interviews methodology requires a participant and interviewer to walk in an area during the interview for a rich, place-based narrative (Evans and Jones, 2011). A researcher visually explores the places that the participant shows them and collects GPS data and photos. Also, the researcher can see how a participant responds in real-time to places that are meaningful to them.

For this study, the proposed methodology for walking interviews included walking beside participants around the Old Town Portland area near Sisters of the Road building as they discussed the water sources they use in the area. I planned to collect photos and GPS data of the water sources they pointed out (e.g. Benson bubblers, Portland

Loos) while recording audio of the interview as we walked. This was not feasible for most participants because they primarily lived in tents on the sidewalks where they stored their belongings, and did not want to leave their shelter for fear of theft. Many of them didn't want to carry their belongings during the interview because they were too heavy or numerous. One participant (P2) had several trash bags full of plastic bottles that they were going to cash in for money at a recycling center and didn't want to leave behind one of their only sources of income.

I adapted my methodology reflexively in the field to ensure the comfort and safety of my participants and their resources by sitting with the participants outside their tents/shelters or on a bench nearby while conducting the interviews. I asked them what they would feel most comfortable doing during the interview and checked in on them periodically throughout the interviews. The disconnect between my proposed methodology and its practicality of it in the field comes from a lack of lived experience on my part. I was personally unaware and had not found in the previous literature that this methodology may not work for some unhoused individuals. Even while consulting Sisters of the Road employees who work with this community every day, this limitation was not brought up prior to the interviews except for possible mobility limitations of participants. It is possible that this methodology could work in other unhoused communities that are more isolated. However, this particular community is located in a highly developed area in downtown Portland where theft is common.

Based on this experience, I recommend working directly with the community of interest in a study to develop a methodology that works best with this community with their permission and guidance, and to work reflexively with the participants when the

methodology may not be feasible. Ideally, the research would be centered around the needs, lived experiences, and interests of the community, and that community would be involved in decision-making, collecting, analyzing, and interpreting data, and guiding the research from beginning to end. One should ask the question of how just research can be achieved for the community it attempts to learn from.

5.2.1. Trade-offs

Upon finding that walking interviews would not be feasible for most participants, this observation demonstrated the trade-offs that some unhoused community members are faced by accessing water. Trade-offs occur when one acts to enhance one aspect of their life to the detriment of another (Galafassi, 2017). When one leaves their shelter, there is a risk that their belongings will be stolen. The trade-off being made in this scenario is that one risks potentially having their belongings stolen while trying to procure water to enhance their health and hygiene. Two participants (P1, P2) noted that the longer time spent filling water jugs or using the bathroom, the longer the opportunity for theft of their belongings while they were away from their shelter. The barriers to accessing water can prolong the time of one being away from their shelter and belongings. P1 described sometimes having to spend up to one hour trying to find a public bathroom that was open or clean enough to use. They mentioned that they would often wait in line for long periods of time to use the Portland Loo. P2 discussed filling gallon milk jugs at the Portland Loo water spigot and taking 10-15 minutes per milk jug. When accessing the showers at TPI, P6 said they would need to get to TPI two hours before it opened to get a spot in line for a 15-minute shower. All of these long wait times

for showers, time spent searching for an available bathroom, or filling water jugs is time away from one's belongings and shelter. One of the trade-offs an unhoused individual may have to make in their daily life to get their basic needs for water and sanitation met is having their belongings stolen.

These trade-offs one has to make to meet their basic needs are an example of procedural injustice. Procedural justice refers to the decision-making and processes that allow the freedom of movement of people, ideas, and perspectives (Walker, 2009). When one has to make trade-offs between getting water and having their belongings stolen, this limits their movement in public spaces. For those who are housing secure, there are laws and protections in place that allow one to move from their house to other spaces without needing to make trade-offs out of fear of their belongings being stolen. Also, those who are housed would typically not need to make these types of trade-offs to meet their basic needs for water because they have access to water and sanitation within their homes. They do not need to leave their house to drink water or take a shower. As unhoused individuals live in public spaces, they have little to no official protections in place allowing them to move freely without fear of losing their items.

5.3.1. Cause-Response-Effect Framework

The theoretical framework used for this study was cause-response-effect which describes resource insecurity as a process, rather than something that a person has or does not have (DeMyers et al., 2017). In the case of water insecurity, the cause-response-effect was examined through water sources, barriers to accessing water, and the impacts a person experiences not having access to water. The results

indicated that through the process of water insecurity, for someone who is unhoused in Portland, there may be several barriers to gaining access to one source of water. These results confirmed the hypothesis that there are several barriers to each water source for unhoused individuals. For example, the barriers one may experience trying to access a public bathroom are accessibility, infrastructure, criminalization of houselessness, safety, health, and COVID-19. As there are multiple barriers to one source of water, there can also be several impacts that result from one barrier. An example of this is an infrastructural barrier to gaining access to drinking fountains can result in health, mental deterioration, and hygiene impacts. In the following sections, these barriers and impacts are explored in more detail. The implications of the connections between sources, barriers, and impacts for unhoused water insecurity are to target the barriers unhoused individuals are experiencing and mitigate the impacts. Through an environmental justice lens, actions toward addressing barriers and mitigating impacts allows equitable and sustainable solutions at varying dimensions. By examining each source of water and the environmental injustices (i.e. distributive, procedural, recognition) that unhoused individuals are experiencing through the barriers impeding access and the impacts resulting from these barriers.

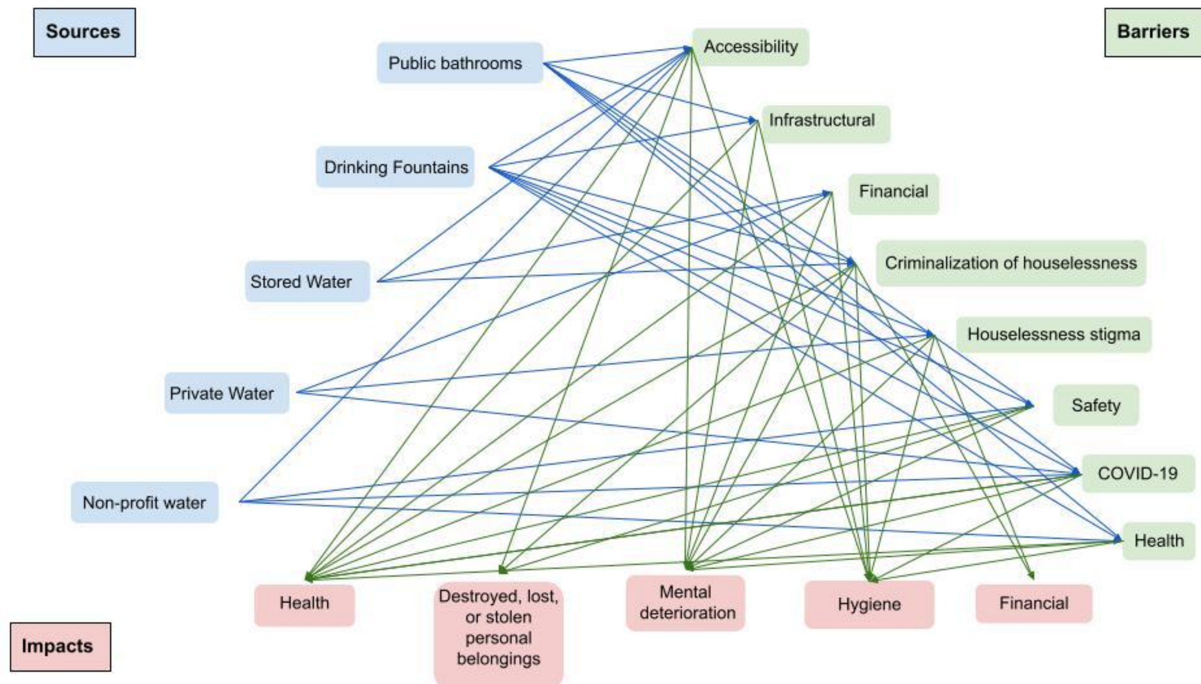

Figure 2: This figure demonstrates the complex connections of the process of water insecurity using sources, barriers, and impacts, developed from the cause-response-effect theoretical model. The sources are in the blue boxes on the left. There are blue arrows starting at each source and point toward a barrier in the green boxes on the right that can impede access to this source. Noticeably, all sources have more than one barrier impeding access to them. For example, participants in the study described public bathrooms as having accessibility, infrastructural, criminalization of houselessness, houseless stigma, safety, COVID-19, and health barriers. The barriers have green arrows starting at each box and pointing to impacts that someone unhoused may experience as a result of that barrier impeding access to water. For example, based on this study, if one experiences financial barriers trying to access water, it may impact their health, mental deterioration, and/or hygiene. This figure demonstrates how complex the process of water insecurity is through the cause-response-effect theoretical model because each source can have several barriers and each barrier can result in several impacts. This provides a more detailed understanding of the process of water insecurity and can be used to address barriers unhoused individuals are having gaining access to water sources and mitigating the impacts they may experience from this.

5.4.1. Sources

Discerning the water sources that unhoused individuals use were examined to understand water insecurity processes. In this study, the data demonstrated that the most important water sources to unhoused participants were water fountains, public bathrooms, stored water, private water, and non-profit water sources.

Water fountains were mentioned in every interview, regardless of whether the participant used them. Portland has a unique feature as an urban environment compared to other American cities, as it boasts 120 Benson bubblers throughout the city. Although they weren't built with the intention of unhoused individuals using them as a primary source of drinking water, it is clear that many unhoused individuals use Benson bubblers.

Some of the water sources important to the participants in this study differed from the water sources important to unhoused individuals in the literature. The water sources found in DeMyers et al.'s (2017) study in Phoenix, Arizona were public water fountains, bottled water, private tap water, surface water, and unconventional/illegally accessed water. In this study, the data demonstrated that the most important sources were water fountains, public bathrooms, stored water, private water, and non-profit water sources. No participants discussed accessing water through unconventional/illegal means or mentioned using surface water as a source. The study areas in both this research and the literature are urban environments in the United States, yet they showed many differences in water access for unhoused communities. In Portland, Benson bubblers are spread throughout the city that many participants described using frequently. Although the DeMyers et al. study (2017) does not provide

details about the number of available drinking fountains for unhoused individuals to access, there is not much reliance on drinking fountains due to distrust of the tap water. Similar to that study, there were several participants in this study (P2, P3, P10) who claimed they didn't trust the drinking fountain water, so many chose to buy bottled water rather than use the fountains. There was only one participant in this study that said they would drink any water they could get, no matter where it came from (P1).

5.5.1. Barriers

Many participants described not being able to access public bathrooms because they were locked at certain times of the day or someone broke a key off in a lock to prevent one from using it. Participants also discussed not being able to find enough bathrooms because there are not enough built, which is an infrastructural barrier. The criminalization of houselessness barrier for public bathroom use restricts unhoused individuals from moving in certain public spaces because they are not allowed there. A participant (P5) had described getting kicked out of a public park by security because they were deemed "camping" by sitting on a blanket at the park, whereas housed individuals were allowed to do the same and were not removed from the park.

Safety is another barrier for unhoused individuals in trying to use public bathrooms because there is little predictability and control in their environment. During the Black Lives Matter protests in the summer of 2020, many participants were concerned for their personal safety. The fear of their safety kept many unhoused individuals from being able to access water, especially in the parts of downtown

Portland where there was high police and protester presence. Some claimed that during the protests, water fountains were broken and not fixed.

When trying to gain access to public bathrooms, some participants described health as a barrier, as they were too sick from an infection or dehydrated and feeling weak. One participant (P2) discussed coming back to their tent after being hospitalized due to an infection and needing to wash their dirty blankets and linens to avoid getting sick again.

The COVID-19 pandemic in 2020 was an emerging barrier that had not been previously discussed in the literature, as this was a very recent phenomenon. The COVID-19 pandemic became a barrier to water resource access for unhoused community members when the City of Portland responded to the pandemic by shutting off drinking fountains and shutting public restrooms. Public buildings were shut down as well, with the exception of essential services. However, the public bathrooms and drinking fountains were not considered essential services. In order to protect the public and workers who maintained the bathrooms from being infected with the COVID-19 virus, they were closed. There were emergency hygiene stations and port-a-potties placed around Portland to help unhoused community members cope with the closures of bathrooms and drinking fountains. One participant (P1) said that those emergency handwash stations and port-a-potties were helpful. However, participants (P6, P3) described having difficulty finding them or that they were not well-maintained. This water and sanitation scarcity during the COVID-19 pandemic in 2020 led to unhoused community members making trade-offs with their water supply. P1 described making trade-offs between using water for hygiene and drinking water. This trade-off is a

recognition injustice. They described feeling like an “animal” (P1), which indicates a lack of dignity. To be described as an animal is a debasement of human life, as people tend to view animals as less than human and not deserving of being treated as one with personhood. Diminished dignity is a recognition injustice, as it is the result of failure to recognize the dire situation of the lived experience of unhoused community members during the COVID-19 pandemic.

5.6.1. Impacts

The unhoused participants in this study experienced many impacts resulting from the barriers to accessing water, which are the result of environmental injustices. Similar to the DeMeyer’s et al. (2017) study, the unhoused participants in this study experienced impacts such as mental deterioration, health, financial, hygiene, and destroyed, lost, or stolen personal belongings. These impacts demonstrate the effects of environmental injustices. For example, mental deterioration is the result of recognition injustice, when one feels shame for their housing status, or diminished hygiene due to lack of access to water. As one participant (P1) described feeling like an “animal”, this leads to mental deterioration from a recognition injustice. Also, health, hygiene, and financial impacts tend to be the consequences of distribution injustices, as not having equitable access to water can cause water-related illnesses such as dehydration from scarcity of drinking water or infections from a lack of hygiene. One may also be financially impacted, as they may need to pay more money or their food stamps to buy water at stores. Destroyed, lost, or stolen items are impacts of procedural injustices, because unhoused community members do not have the same rights as housed individuals and have restricted movement in public spaces. Housed individuals are

protected by laws from theft, however, unhoused individuals do not benefit from the same protections. When an unhoused individual leaves their tent to procure water services, they risk their belongings being stolen when they are away from their shelter. As many participants described trying to stay away from law enforcement (P1, P3, P4), it is unlikely that an unhoused individual would report their belongings stolen to law enforcement. Also, unhoused individuals not being able to move around in public space freely due to criminalization of houselessness can lead to the loss of personal belongings, as they are limited to what they can carry.

6.0. Conclusion

By applying an environmental justice lens to the process of water insecurity of unhoused individuals in an urban environment, it was found that unhoused individuals experience environmental injustices while attempting to gain access to water, such as criminalization of houselessness, trade-offs, and lack of dignity. The COVID-19 pandemic was a novel barrier that emerged in this study, bringing to light the consequences of a widespread health event on an unhoused community in an urban environment.

This research was limited by the amount of interviews conducted, the community interviewed, and my lived experiences. Ten unhoused participants in one specific area in Portland were interviewed. Data saturation was reached, however, there are always more insights to be gained, as this community is not a monolith. This community was close in proximity to many services, so the process of water insecurity they experience is likely different from unhoused communities further from services. Also, my lack of

lived experience with being unhoused chronically and on the streets limits my perspective of understanding water insecurity firsthand.

In order to understand the environmental justice of water insecurity processes for unhoused communities that are not close in proximity to services, it is recommended to conduct a similar study in these communities. For example, in Portland, there are unhoused communities that live in the Portland Harbor and the Columbia River on makeshift rafts and boats. As the Portland Harbor is a superfund site, it is unknown how this particular unhoused community is impacted by water insecurity and the exposure to legacy contamination and future cleanup efforts in the area. Other future studies could examine intersectional identities surrounding the environmental justice of water insecurity for unhoused individuals. I did not explore the identities (e.g., race, gender, sexuality, disability) in depth, and using the Black feminist theory of intersectionality described by Kimberlé W. Crenshaw and applied to environmental justice by Iris Marion Young (1990) would help provide these insights. Another question of interest that arose with this research is how much do unhoused community members trust the public sector and non-profit sector for access to water and sanitation? This information could be used to understand what impedes trust among these sectors and to develop trust among public and non-profit services to better support this community.

Upon the completion of this study, I recommend that local policy-makers utilize principles of EJ to evaluate existing and future policies. In order to serve the community, including unhoused neighbors, it is recommended that resources (e.g., housing, water and hygiene infrastructure) are distributed equitably, with few limitations (e.g., restrictions on drug use, criminal records), and with dignity (e.g., clean, private).

Decriminalizing unhoused individuals will allow freedom of movement, perspectives, and ideas in public spaces, also allowing individuals to meet their basic needs for water and sanitation.

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Appendix

Interview Question Guide for Walking Interviews

This is an interview question guide to be used during walking interviews for the houseless water insecurity project. These questions will not necessarily be asked if the interviewer felt like the participant sufficiently answered them without being asked. The questions may not be asked in order, as the interview should be primarily led by the participant throughout the interview.

Introductory questions:

1) Can you point out the water sources that you use? While we're walking, will you interrupt me and point out additional water sources? Please tell me about these water sources, such as:
   a) How often do you access them?
   b) What kinds of barriers are there to accessing these water sources?
   c) What impacts have these barriers had on you?
   d) Please tell me how these barriers have changed throughout the COVID-19 pandemic?

Water Sources:

2) How often are you able to access bathrooms? Each day? What kind of bathrooms? Has that changed for you during the pandemic?
3) How often are you able to wash your hands? What water sources do you use to wash your hands?
4) How often are you able to brush your teeth? What water sources do you use to brush your teeth?
5) How often are you able to bathe? What water sources do you use to bathe?
6) How often do you do laundry? What water sources do you use to do laundry?
7) Do you use portable toilets? Why or why not?
8) Do you use the Portland Loo? Why or why not?
9) Do you use Benson bubblers? Why or why not?

Barriers:

General question:

1) What are some barriers you come across when trying to access water (e.g. drinking water, bathing, laundry, cleaning, food preparation)?
   a) Follow-up (if the participant cannot think of any barriers): Some examples of barriers are: affordability, accessibility, safety, infrastructure, health, management of public space, COVID-19, stigma.

Safety, ESDs, & Criminalization

1) Have you heard of the term "enhanced services district" or "ESD"?
   a) Follow up: If participant has not heard of enhanced services districts, explain that they are designated areas in Portland that are public but

services in these areas are privately funded. These private funds also include extra security and cleaning.

2) Are there certain places in an ESD that you avoid? Why do you avoid these places?
3) Have you felt fear for your safety or security in ESDs?
4) Where do you feel most safe and/or secure?
5) Have you gotten in trouble (e.g. harassed by business owners, kicked out of an establishment, harassed by law enforcement, arrested, etc) for trying access water? Use the bathroom? Wash your clothes? Bathe?

Accessibility

1) What water source is most accessible to you? What water source is hardest to obtain?

Affordability

2) Do you purchase water?
    a) How often do you purchase water?
    b) Can you afford to purchase water?
    c) How much money do you spend on water per week?

Reliability (Infrastructure)

3) Do you think there are enough toilets, drinking fountains, showers, laundry facilities for you to use?

Health

4) What are your perceptions of the water quality of the water you drink? Bathe? Wash your clothes? Brush your teeth?
5) Does your health keep you from being able to access water?

COVID-19

6) How has COVID-19 changed where you get water from?
    a) What types of water do you use? (bottled, river, bubbler, from a business, etc.)
    b) How has COVID-19 changed how you use water?
    c) Has the implementation of any new water sources since COVID-19 been helpful for you? Why or why not?

Impacts:

1) How have you been impacted by trying to access water (e.g. drinking water, bathing, food preparation, laundry, dental hygiene)?
    a) Follow-up (if the participant can’t think of any impacts): Some impacts may include: health, safety, arrest, fines, imprisonment, mental deterioration, poor hygiene, damaged belongings, and/or financial.
2) Please provide an example of a time when you were impacted negatively by trying to access water.

3) How has the COVID-19 pandemic impacted your ability to gain access to water sources?

End of Interview:

1) Is there anything that we haven't talked about that would help me understand your experience accessing water?
2) What do you think is the single most important thing I should know about addressing water access?
3) Is there anything we discussed during the interview that you would like me to strike from the record?