

## **Defining Water, Sanitation, Hygiene (WASH) Insecurity: Urban Barriers, The Homeless Experience, & Policy Perception in the Global North**

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### **Abstract**

Public sanitation services are disappearing across US cities as infrastructures age, and as costly maintenance and expansion are underprioritized in city planning. Fewer and less accessible sanitation services impact the daily lives and health of away-from-home commuters, workers, tourists, recreationalists, families with children, elderly, and those with compromised continence (Greed 2004; American Association of Restrooms 2020). Confronted with a lack of facilities to meet handwashing and elimination needs, urban populations are experiencing *water insecurity* (Obani and Gupta 2016). Those with the least access to private *or* public water and sanitation facilities (Leibler et al. 2017) are uniquely vulnerable to water insecurity – individuals experiencing homelessness. Water for sanitation and hygiene (WASH) that is affordable, adequate, and reliable is not only foundational to health and productive engagement in social and economic life (Jepson et al. 2017) but an imperative for protecting against community spread of pathogens (Staddon et al. 2020). Water security scholarship of the Global North investigates the relationship between infrastructure, space, and social inequality (Deitz and Meehan 2019; Meehan et al. 2020a; Meehan et al. 2020b) and facilitates understanding barriers to accessibility of water for sanitation and the experience of their absence. This project examines the socio-spatial distribution and policy context of water insecurity in Seattle, Washington, the U.S. city with the third largest homeless population (Nisar et al. 2019), by applying a mixed methodology: remote questionnaires of homeless service providers will inform the physical context of accessibility, and facilitate online surveys of undomiciled individuals; document analysis and semi-structured interviews will inform a quantitative analysis of city stakeholder perceptions of provision of public water for sanitation and hygiene.

### **1.) Description of the student's proposed research**

#### ***Statement of critical regional or state water problem.***

Despite evidence of gaps in universal provision in the Global North (Jepson et al. 2017; Meehan et al. 2020a) the conditions and experiences of WASH insecurity for urban communities in the Global North are not well understood. While public sanitation services disappear from urban communities, 930,000 persons in U.S. cities experienced a lack of reliable basic sanitation, when including the urban homeless (Capone

et al. 2020). The lack of publicly accessible WASH emerges as a water crisis, brought to the fore by COVID-19, as a lack access to water for handwashing threatens public health globally (Staddon et al. 2020). Across U.S. urban centers, access to water for handwashing and safe sanitation is crucially needed to protect public health.

Inadequate access to water for drinking, washing, and sanitation impacts the health and well-being of urban community members, especially people on-the-move in cities such as workers with schedules outside the 9 to 5 cycle, who are confronted with closed restrooms, or simply none at all (Greed 2004; Greed 2009; Stanwell-Smith 2010). Police, taxi and delivery drivers, (Brown 2020) care workers, utility service providers, landscapers, gig economy workers, all face a dearth of options for handwashing and restroom needs, currently exacerbated by restricted business operations due to COVID-19. For people experiencing homelessness, access to WASH services is exceptionally limited. The undomiciled are uniquely vulnerable to dehydration (DeMyers et al. 2017), to communicable infections (Badiaga 2008) and COVID-19, due to underlying medical conditions, climate exposure, crowded shelters (NAEH 2020), and limited access to clean, functional hygiene facilities (Leibler et al. 2017; Moffa et al. 2019). Well-being is undermined by social stigma and criminalization of open urination and defecation (Hochbaum 2019), and persistent threat of encampment removal (Speer 2016). In 2019, nearly 568,000 people experienced homelessness in the United States (Nisar et al. 2019); In Texas this year, there were 25,848 persons counted as experiencing homelessness (USICH 2020).

Although this research will be performed in Seattle, Washington, the research design, finding, and policy options are directly applicable to urban centers in Texas. The Western and Southern regions of the U.S. have the fastest growing populations; Texan cities representing some of the largest, including Houston, San Antonio, Austin, Fort Worth and Dallas (US Census 2020). Housing markets in Austin, Texas mirror Seattle, with large rental markets characterized by low rental availability and a high cost burden are linked to growing and persistent homelessness (Nisar et al. 2019). As economic activity increasingly takes place throughout the 24-hour cycle in cities (Greed 2004; Greed 2009), workers need hygiene and sanitation facilities to stay healthy and safe. Like other U.S. urban centers, homelessness in Texas disproportionately affects people of color. In Houston's 8,409 homeless, 69.6 % are black but make up only 39.9 % of the total population, while 43.3% of homeless are Hispanic but represent 14.1% of Houston's population (Coalition for the Homeless 2020).

Through the lens of society's most vulnerable mobile population – individuals experiencing homelessness – to inadequate access to water for hygiene and sanitation purposes, this research offers potential for regional comparisons of urban water insecurity in the U.S. The research will contribute understanding of water insecurity applicable to policy planning in urban contexts of Texas.

### ***Nature, scope, and objectives***

This research examines access to public water for sanitation and hygiene as a significant facet of water security that underwrites the capacity of individuals to socially thrive, and the unique barriers faced by mobile populations along, dimensions of access, affordability, adequacy and reliability to safe water and sanitation services. Aimed at defining urban water insecurity in the Global North the research will: 1) identify the existing publicly accessible sanitation and hygiene services, barriers to their access, and experiences of water insecurity; 2) assess how urban policy and stakeholder perception contributes to the provision of public water-related services. The research will utilize Seattle's network of homeless advocate and service providers to carry out data collection, relying heavily on remote communication technology and city public documents. The proposed timeline for data collection spans spring through summer 2021, followed by analysis completion by spring 2022.

***Methods, procedures, and facilities.***

Phone questionnaires conducted with homeless service organizations, and the City Parks Department will provide the basis to assess the extent and types of public water services available. Questionnaires will facilitate selection of participant organizations for the purpose of survey distribution (online) to homeless individuals about water insecurity experience (across the dimensions of access, affordability, adequacy, reliability, safety), followed by select semi-structured interviews. Other publicly available sanitation services will be identified using city data and physically verifying their presence. Media sources and city documents will be analyzed, to develop a history of Seattle’s public water policy, and to inform a quantitative analysis of stakeholder perception through a Q-method factor analysis.

Seattle, Washington is a national leader of sustainable cities (City of Seattle 2013) and the first in the U.S. to adopt a regional governance body with members that have experienced of homelessness (Regional Homeless Authority 2020). Yet it also holds the third largest unsheltered homeless population in the country (Nisar et al. 2019). Seattle represents an appropriate site to investigate what drives urban water insecurity, despite evidence of municipal commitment to social and environmental justice. I am a Northwest Washington native with professional and community experience working with vulnerable populations. I have worked in Seattle and have social contacts in the city who work in the public health domain.

***Statement of expected results or benefits***

This research will contribute to understanding socio-spatial, experiential, and policy dimensions of water insecurity as reduced or eliminated access to public toilets, showers, drinking fountains and handwashing facilities for communities in North American cities. It will identify specific water insecurities and clarify how they are experienced by the most vulnerable. A city level analysis of water insecurity offers clarification to areas of policy intervention and prioritization of resources. The identification of water insecurities that are likely shared in similar urban contexts contributes broadly to urban policy across cities.

**2.) Intended Career Path:**

My career goal is to teach and perform research in a tier-one university in the United States. I plan to apply my training from Texas A&M University in human geography toward social and environmental justice concerns of water in the Global North and South.

**3.) Academic Qualifications:**

Please see the attached transcript.

**4.) Budget**

<b>Category</b>	<b>Request</b>	<b>Justification</b>
Tuition	\$5,000	Tuition
<b>Total</b>	<b>\$5,000</b>	Tuition

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