REIMAGINING AN AMERICAN CITY WHERE PEOPLE WITHOUT A HOUSE CAN SUBSIST

Abstract

Houselessness is a prevalent issue in America's major cities. In large cities such as Washington, D.C., it is common to see people living on the streets and in public spaces. The underlying causes of houselessness are multifaceted, but it is evident that the city does not provide appropriate resources for these individuals to exist humanely. This study aims to comprehend the primary needs of a houseless person and determine how urban design solutions might provide resources to address those needs. For the investigation, SW Washington, D.C.'s waterfront neighborhood was chosen. In its urban fabric, numerous unused or underutilized spaces have been observed. These spaces have the potential to be transformed into urban places that could make the city more supportive to the population without houses. A number of such resources have been identified. Several survey methods, such as non-participatory observation, and traffic and pedestrian counts, were utilized to obtain primary data for the research. In addition, diverse data sources, such as GIS data, journals, books, podcasts, television interviews, and website content, were consulted to obtain secondary data. Collected data was studied and synthesized to develop urban design ideas that can aid unsheltered individuals with their daily needs and make the city more hospitable. This research is not intended to solve the issue of homelessness in American cities; rather, it aims to highlight the needs of those impacted and propose possible intervention strategies in conjunction with other social services and design solutions (i.e., traditional shelters, traditional housing). The study also provides a brief overview of the causes of houselessness in the United States, and an investigation into the lives of people living unsheltered. The outcome will give policymakers an understanding of how a city can facilitate its unfortunate residents.

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Keywords

Homelessness; SW Washington, D.C., urban renovation

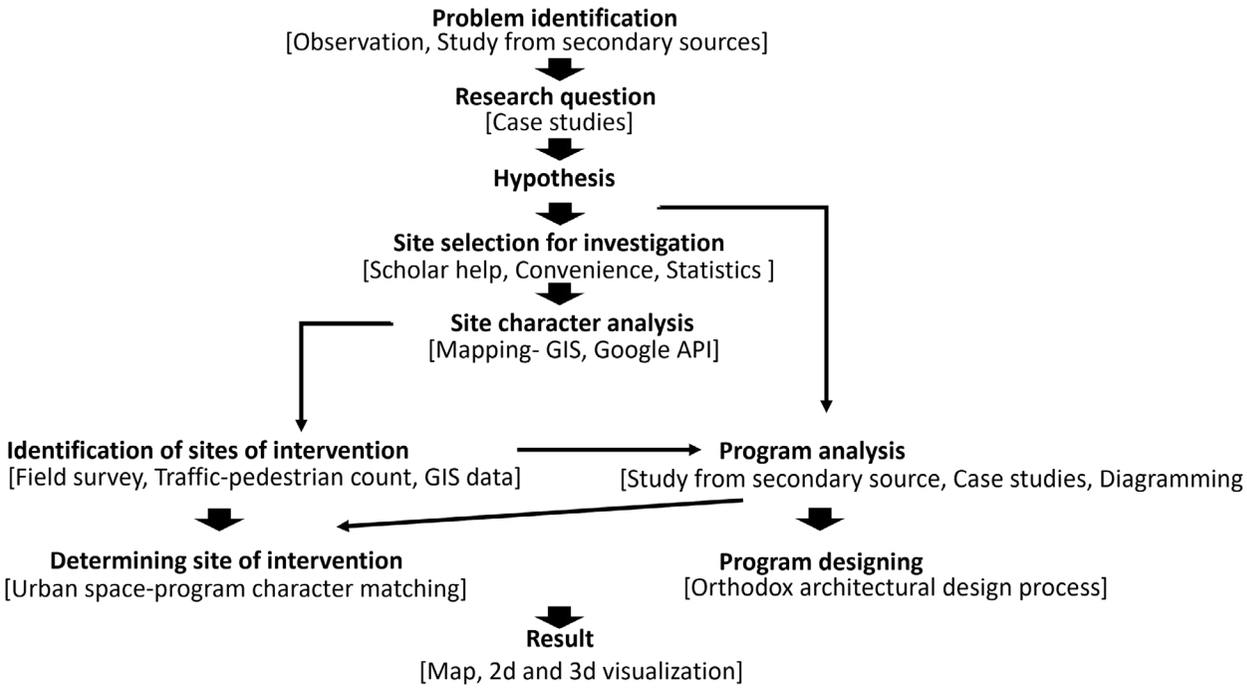


Figure 1: Three-stage research design. (Source: Author.)

Introduction

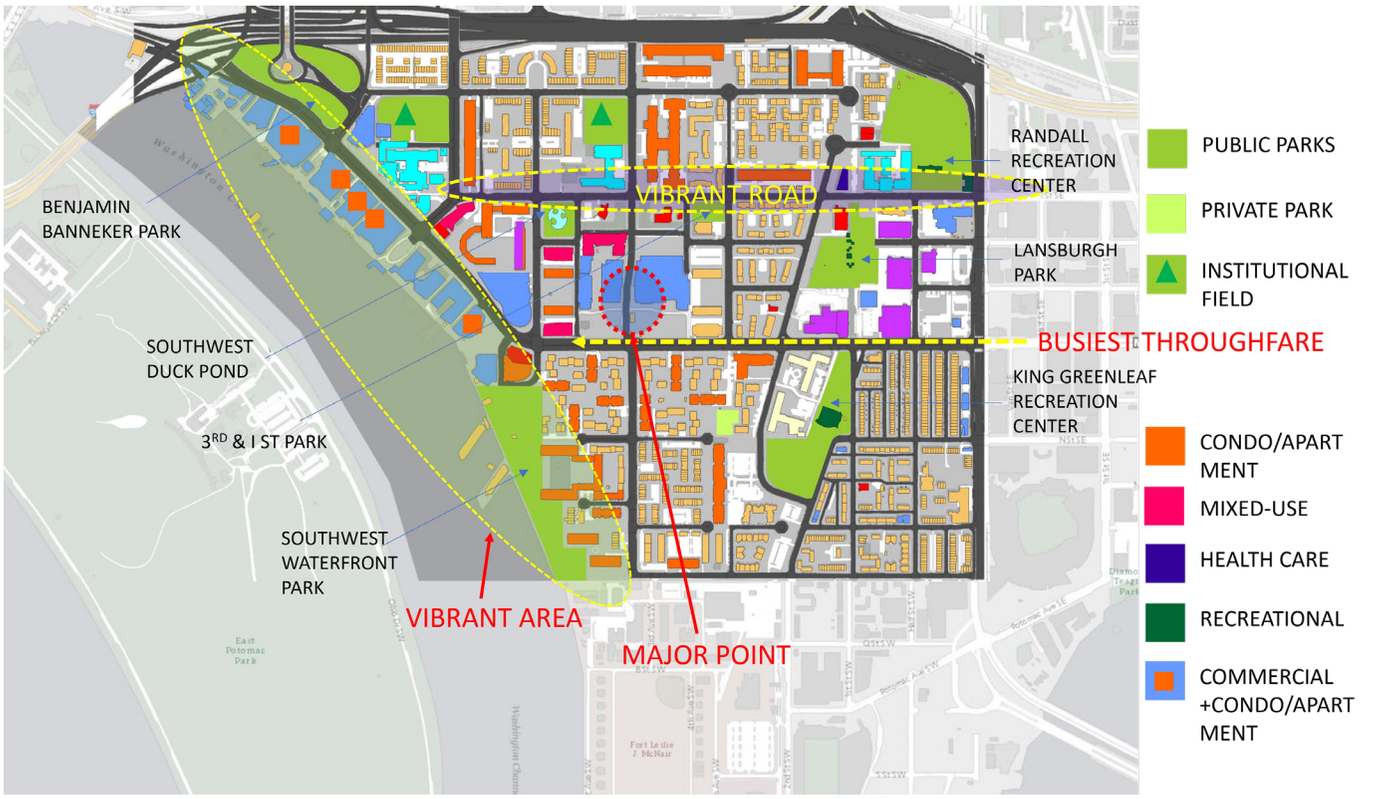
It is common to see people living on the streets and in public areas of American cities; these individuals are commonly referred to as being homeless. Such individuals have been spotted in America since the 1870s, and the sightings continue to this day (Wright, 2009). They are frequently observed sitting, lying, leaning, panhandling, loitering, camping, obstructing the sidewalk, sleeping in public, and storing items in public places, which causes other city residents to feel uneasy and occasionally unsafe (Johnsen et al., 2010). The number of such individuals in American cities, especially in the largest cities, is not negligible. However, according to some studies, there are more unsheltered people than seen on the streets. They live in cars, shelter homes, and friends'/relatives' houses. In the majority of instances, this condition of houselessness is unintentional (Kusmer, 2003; Wright, 2009; Hidden Homeless Report, 2022). According to researchers (Kyle, 2005; Kozol, 2006), houselessness results from flawed sociopolitical and economic structures. The interrelationships between the causes of houselessness are quite intricate. The major causes include income inequality, questionable housing provision systems, social policy, racism, stigma, drug addiction, mental illness, loneliness, unemployment, disability, and social exclusion. People become houseless for a variety of reasons and, in most cases, for a brief period of time, typically one to two months. Some of these houseless people start living inhumanely on the streets, some in their cars, and some in the homes of friends or family. There are a variety of causes for houselessness in the United States. Numerous factors contribute to houselessness. In a nutshell, the state of houselessness occurs when a person is unable to pay their rent or mortgage for several months and is subsequently evicted, or when a person who rents a home but cannot pay the rent for several months and is subsequently evicted. When these events happen, that person or persons become houseless. They were unable to pay the rent or mortgage due to a lack of income, as a result of losing their job, falling into debt, becoming severely ill and unable to work for a period of time, becoming addicted to alcohol and drugs, and becoming mentally ill.

Houseless persons cannot be identified by appearance. Therefore, it is difficult to ascertain the exact number of individuals who are houseless. This study uses the word "houseless" instead of "homeless." Because being homeless means losing not just a roof over one's head, but many other intangible things as well. This study only looks at the physical aspect of being homeless, specifically the loss of access to a "house."

What transpires after someone loses their house? In actuality, he/she loses some of the services that a house offers. Every element of an urban fabric has a specialized purpose. Say, for instance, that a road is for driving a car, a sidewalk is for pedestrians, a rail track is for trains, a park bench is for relaxing, etc. The same is true of a house. It offers a climate-controlled area for sleeping with privacy; bathrooms for showering, urinating, shaving, and cleaning clothes; kitchens for cooking and storing foods; living rooms for entertainment, and interaction with visitors and family members, etc.; and most importantly, it provides security. However, when someone loses their house, they also lose access to the services that a house offers. Then, these people attempt to substitute other city elements for houses while still making "informal" efforts to satisfy their needs. And as a result, it puts other elements' ability to function in jeopardy, creating an unforeseen urban situation.

This study aims to determine how urban design solutions might provide services that may substitute the services that a house provides, thus making a city more hospitable to houseless people. The goal of this study is not to find a solution to the houselessness problem but rather to discover urban design solutions that may reduce the difficulties a houseless person faces.

The phrase "American city" refers to a broad category that encompasses the shared traits of American cities. The waterfront neighborhood of SW Washington, D.C., was chosen as the study area and will serve as the focus of the study.



Map 1: Waterfront Neighborhood is located south of the National Mall and west of South Capitol Street in Washington, D.C., the capital of the United States. It is the city's smallest quadrant and comprises different types of roads and areas. (Source: https://opendata.dc.gov.)

Methodology

The study was carried out broadly in three stages through a research design.

- First stage: The topic of "houselessness in America" has been thoroughly studied using secondary sources (e.g., books, journal articles, web content).
- Second stage: The urban fabric of the Waterfront Neighborhood of SW Washington, D.C., has been studied through mapping and field observation. Traffic and pedestrian count data were also collected through fieldwork. The characteristics of the area were then analyzed and understood using various maps.
- Third stage: Sites of intervention were critically examined. Based on the analysis, urban design solutions were proposed.

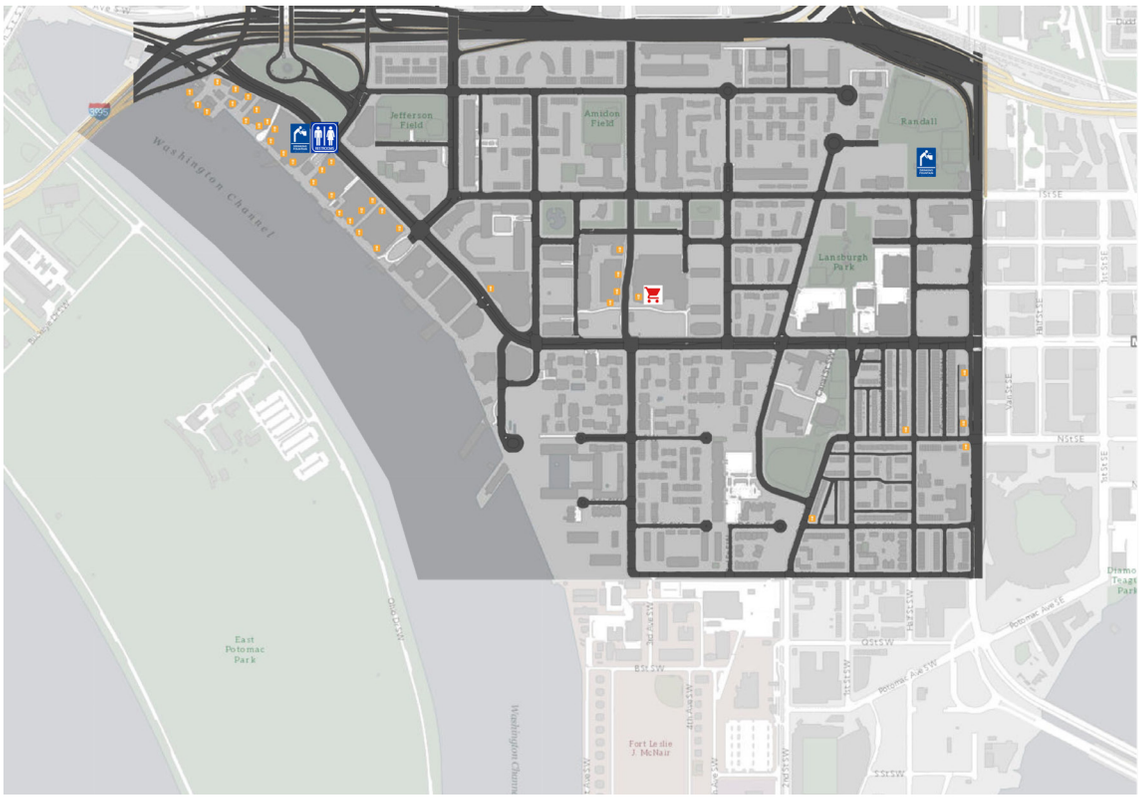
A research design was created in order to carry out the entire study (Figure 1). In every step of this research, several methods have been deployed to complete the step with a robust outcome. Maps are produced from open GIS data obtained from opendata.dc.gov.

Hypothesis & Site

When people lose their houses, they look for the services that housing provides in the urban fabric. There is no substitute for the need for housing, which is a basic human need. Housing is an integral component of urban structure. The bedroom, which provides a private, climate-controlled sleeping space, is the fundamental element of a house. This element is interchangeable with other housing options (e.g., low-cost housing, pods, single room occupancy, mobile houses, tents, etc.). Nevertheless, these options are primarily associated with 'housing.' Urban camping grounds may constitute an element of urban design, but they are essentially "informal" housing (Sparks, 2017). This study was primarily concerned with urban design options to alleviate the initial difficulties a houseless person faces when he/she loses his/her house, as opposed to any informal or temporary provisions. Table 1 depicts the fundamental services of a house and how a city can provide them.

House Functions	Lost Facilities	Facilities that a city may provide
Bedroom	Sleeping, Clothes storage, Privacy for sexual activity	* Resting place (lie down facility)
Bathroom	Toilet, Showering, Personal care	Public restrooms, Bathing facility
Kitchen & Dining	Cooking, Food storing, drinking water, Dining	Drinking water fountain, Cooking & dine space
Living	Home entertainment, Interaction with visitors	Spaces for interaction
Garage/Parking	Parking car	Overnight and shaded* parking space
Climate Controlled Environment	HVAC for summer and winter, Shelter for rain and storm	Roofed spaces to protect from rains

Table 1: House facilities. (Source: Author.)



Map 2: Available resources for the houseless. (Source: https://opendata.dc.gov.)

Each city has its unique characteristics, and even neighborhoods within a city vary from one another. This study was conducted in Washington, D.C., due to the author's proximity to the city. Washington, D.C., is comprised of 106 neighborhoods. Among those, the waterfront neighborhood of SW Washington, D.C., (Map 1 and Figure 2) has been chosen for this study.

Figure 2: Washington, D.C. neighborhoods. (Source: James McDonald.)

Site of Intervention

This study began by identifying the existing resources in the area that can assist a houseless individual (Map 2).

Where will he/she get food at mealtimes? Where will he/she get drinking water? Where will he/she locate a restroom? Where can he/she sit, lie down, or find shelter when the weather is poor? Map 2 depicts the available resources in the area for individuals without a house.

It is evident from this map that the following elements must be incorporated into the neighborhood's urban fabric for it to be hospitable to the unsheltered:

— Public restroom
— Shower facility
— Drinking water fountain
— Cooking facility
— Lying down facility
— Shaded overnight parking facility

For the purposes of this urban design research the definition of "available land" was limited to "public land," owned either by the federal government or the city. Based on ownership and current use, the potential sites are:

— Maine Ave. SW and 9th St. SW
— G St. SW end
— Underneath the 701 S Capitol St. SW freeway overpass
— Delaware Ave. SW and H St. SW
— Entrance area of Randall Park
— Duck Pond: I St. SW and 6th St. SW
— I St. SW & 4th St. SW
— North entrance of Lansburgh Park

— Lansburgh Park
— SW Farmer's Market
— Waterfront Metro Station Park
— South entrance of Lansburgh Park
— Delaware Ave. SW and Greenleaf baseball field corner

This study analyzes these thirteen sites in terms of their "accessibility," "privacy," "vibrancy," and "visibility." The following (Table 2) is the assessment metrics for every site.

METHOD	FACTOR	METHOD	FACTOR
ROAD NETWORK & TRANSPORTATION MAPPING	ACCESS: PRIMARY ROAD, SECONDARY ROAD, BUS STOP, METRO STATION, SIDEWALKS, BIKE ACCESS	TRAFFIC COUNT PEDESTRIAN COUNT (20 MIN)	VIBRANCY: 0-50 PED. PER HR, 0-100 PED. PER HR, 0-150 PED. PER HR, 0-200 PED. PER HR, 0-250 PED. PER HR, 0-100 CAR/HR, 0-200 CAR/HR
LANDUSE ROAD NETWORK	PRIVACY: TRAFFIC ROAD, PEDESTRIAN, 24HR OCCUPIED BUILDING WINDOW, 10 HR OCCUPIED BUILDING WINDOW, VEGETATION	ROAD BUILDING WINDOW OBSTRUCTION	VISIBILITY: PRIMARY ROAD, SECONDARY ROAD, SIDE WALKS, VIBRANCY (>MEDIEAN), VEGETATION/ OBSTRUCTION

Table 2: Assessment metrics. (Source: Author.)

Program Analysis & Design Decisions

Public Restroom: The placement of public restrooms in urban areas begins with the question of where to locate them. Then how far apart should public restrooms be? As it is difficult to find, the answer is unrevealed. Numerous factors influence this issue. It is impossible to determine how long a person can hold their urine or feces without endangering their health, as it varies with age, gender, health condition, race, region, etc. The City of Melbourne toilet plan and the City of Port-Phillip toilet plan of Australia recommend that the distance between toilets should not exceed 550 meters in a city area. This study, therefore, incorporates this suggestion, as it is supported by appropriate evidence. Google Maps indicates that it takes an average adult six minutes to travel 550 meters in the waterfront neighborhood. Consequently, the proposed public restrooms in this fabric are located between 350 and 550 meters apart. The public restroom for the waterfront neighborhood comprises a toilet, shower, and drinking water fountain (Figures 3 & 4) arranged in one location due to the need for a shared water and sewage line.

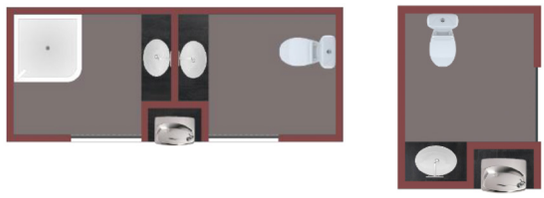
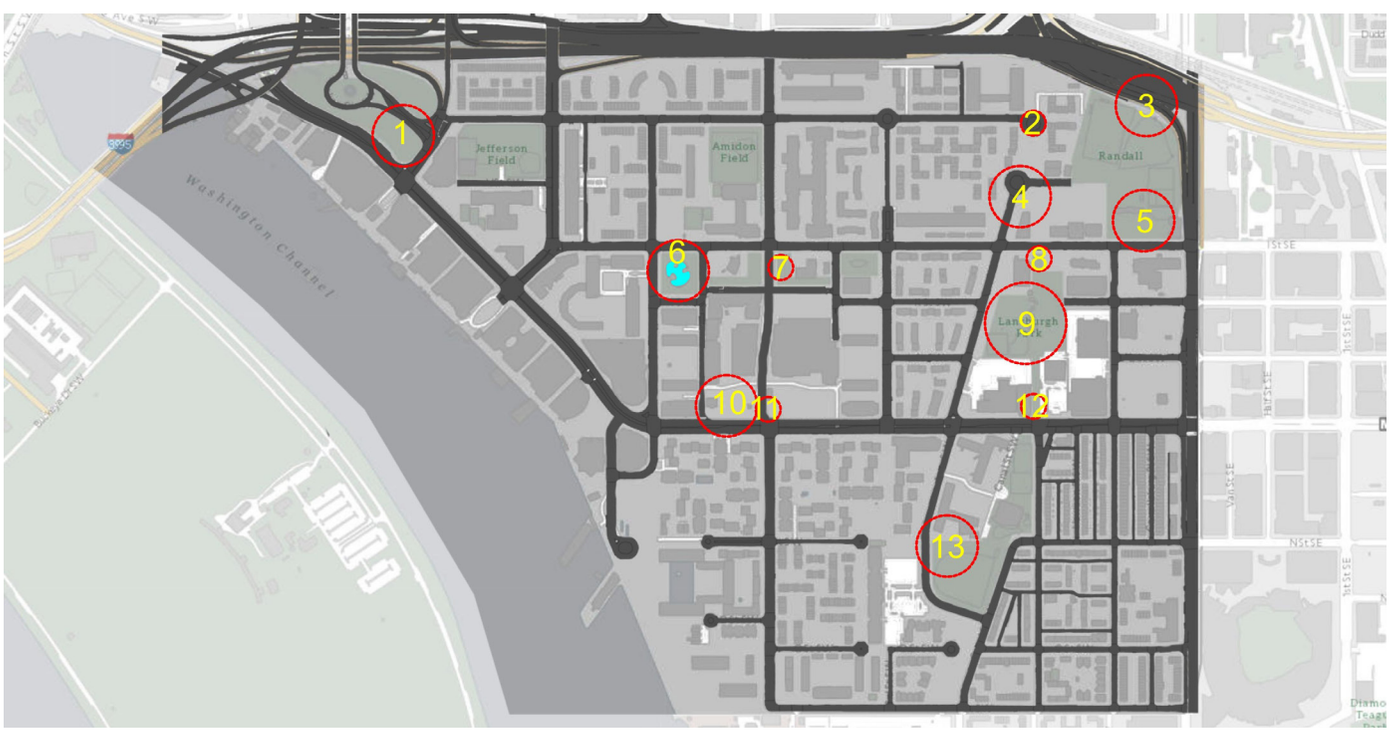


Figure 3: Restroom prototypes. (Source: Author.)

Figure 4: Placing public restrooms. (Source: Author.)



Map 3: Potential sites of intervention. (Source: https://opendata.dc.gov.)

Cooking Provision: To design a cooking facility in a public space, a number of factors must be considered, most importantly energy regulation and safety. A stove is essential for cooking, and energy is required to power a stove. Energy requires funding for procurement. For example, if the stove is powered by wood, electricity, gas, or oil, it will need to be purchased. If a stove requires these energy sources, it will also require funds for maintenance. Instead of this source, this study recommends using renewable energy sources, specifically sunlight. A solar-powered stove is recommended here. To ensure safety, the stove would be an induction cooker. An induction cooker is a type of cooker that is only compatible with metals that are attracted to a magnet. To cook, a metal pot is required. The recommendation is to ensure safety. Unregulated open fire stoves pose a potential fire hazard if not properly regulated. Electric stoves in public spaces can also be hazardous, especially if they are not used properly. It poses a threat to mentally ill people and children. Considering these factors, the induction cooker is the safest alternative, as it can be powered by solar energy and can only be used for cooking, as it requires a metal cooking pot to operate (Figure 5).

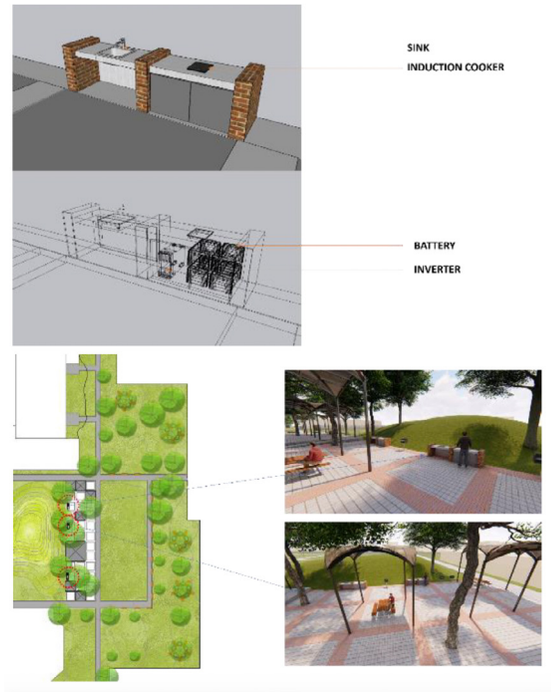


Figure 5: Cooking provision. (Source: Author.)

Lying Down Provision: Designing lying arrangements in public spaces is critical. Both the individual lying down and the general public require a certain degree of privacy for comfort. Additionally, security is an issue. Despite these technical facts, there are also social and cultural facts that suggest a distinction between the individual who is lying down and the general population. Lansburgh Park has a number of specific attributes. As public buildings surround it, its interior is pretty private from the public's eye. There are three distinct zones within the interior area (Figure 6). The third zone is currently unusable. This location is devoid of activity. However, there are several trees in the vicinity. Trees give the impression of volume. Therefore, the area beneath the tree is suitable for lying down provisions. It will not provide shelter, but it will provide a sense of shelter. Moreover, it will provide shade. The furniture used for lying down is tricky. It must provide a sense of seclusion. People prefer that no one looks directly at them when they are lying down. Therefore, the following pattern is utilized, so everyone has their own direction (Figure 7). A flower vase has been utilized as a divider between the lounge chairs. A line of bushes has been proposed to make zone 03 more territorial and to provide privacy for individuals who are lying down, as well as picnickers and exercise zone users.

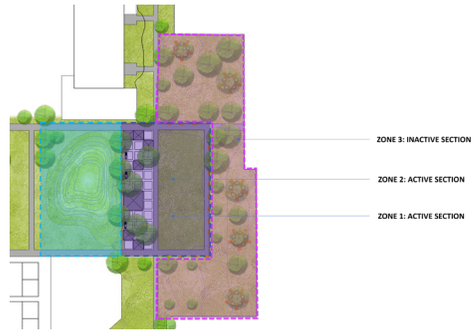


Figure 6: Zones of Lansburgh Park. (Source: Author.)

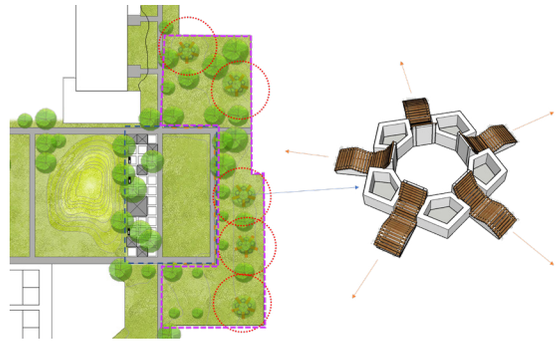


Figure 7: Lying down furniture & locations. (Source: Author.)

Parking Provision: Security is the primary concern for overnight parking facilities. Additionally, if this parking facility is for car-owning but unhoused individuals, it will need to be shaded because it is difficult to remain inside a car in extreme weather conditions, such as when it is extremely sunny or snowing, without turning on the climate control (AC or heating). Both options require a running engine, which is not cost-effective for the houseless car owners.

There is an existing 600-car parking lot beneath the I-295 overpass. Pacific Parking currently manages the parking lot. From the northeast corner of Randall Park, there is a parking lot entrance. This parking lot has the advantage of being shaded, as it is covered by overpasses. A portion of the parking lot may be utilized as a safe overnight parking area for people without a house but with a car. A portion of the area (Figure 8) beneath 356 Road is utilized to provide essential services such as restrooms and snack vending machines.

Figure 8: Shaded parking provision. (Source: Author.)

Reimagined Urban Fabric

Map 4: The neighborhood after intervention. (Source: Author.)

Conclusion

Houselessness is related to housing. Yet it is more than a housing matter, which is why this proposal can only address those aspects that belong to the built environment. There is potential for affordable housing initiatives (which include ultra-low-cost housing, single-room occupancy housing, and social housing) to alleviate houselessness. However, when a person becomes houseless in the current context, he leaves his house and searches for the resources and facilities that his house provides within the urban fabric. This study demonstrated several approaches to rethinking an American city's urban fabric in order to transform it into a more hospitable city for its unfortunate residents with minimal intervention of existing resources. This research and design will not solve the epidemic of homelessness; rather, it will highlight the needs of those impacted and propose potential interventions through urban design in combination with other social services (such as more traditional shelters and transitional housing).

A city is a habitat for human beings. Human beings cannot be defined by their gender, religion, race, education, skin color, or socioeconomic standing. Therefore, if a person loses his or her home due to poor economic conditions, the city cannot treat him or her as an object denoted by the term "homeless" and expel the object from the city. Despite this objectification, a city should facilitate its residents in every way possible, including housing and urban design. This study began with the observation that the loss of a house can turn a city that was once a pleasant place to live into a hostile one. Cities are attempting to construct adequate housing for those in need; however, many people remain without it. In this transitional period, urban elements can ease the difficulties of the houseless. This study demonstrated this. In the same manner as waterfront neighborhoods, other neighborhoods in Washington, D.C., and other American cities can be observed and analyzed. What resources do these locations possess that are currently being underutilized? Those underutilized resources ought to be utilized for the benefit of the populace. The concept of providing house functions in an "urban design" manner within the city is replicable in other cities too. However, the design would be site-specific.

In some instances, economic factors and social norms can impede the design's intended purpose. Installing a restroom and cooking facility, for instance, will necessitate a sizeable initial investment. The rate of return is slower than a shopping mall or toll road. However, this investment will fall under "moral capitalism" (Thompson, 1971) — the allocation of a portion of resources to each stakeholder — the citizens. In consideration of social norms, territorial boundaries have been incorporated into the design of the lying facility. It still has the potential to cause "class conflict." Chronically houseless individuals, who are ordinarily identifiable by their tattered and filthy attire, may use this more and exclude hidden houseless individuals from coming to rest due to the existing social stigma. However, both types of houseless people require space. As previously discussed, the city "cannot" disregard a resident's right based on his attributes. "Universality" is a central concept underlying the design of this study. The proposal was not intended only for "houseless" individuals. All proposals are intended for "public" use. Sincerely, no proposal was made that would cause a user to experience objectification by being houseless. However, this study has some methodological and qualitative limitations. Therefore, there is greater potential to investigate this topic further. In addition to providing policymakers with an understanding of how a city can assist its disadvantaged residents, the propositions will pave the way for future urban design researchers to examine the issue in greater detail.

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