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**RIT**

**Understanding design challenges for  
homeless' sleeping situation in the US.**

by

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A Thesis submitted in partial fulfillment of the requirements for the  
degree of Master of Fine Art in Industrial Design

School of Design

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## **ABSTRACT**

The living situations of the unsheltered America homeless vary across America. This paper highlights this difference by comparing two cities: New York City and San Francisco. The author considers the causes of homelessness, difficulty of being shelters, current living situation and the influence of the society. In both cities, the sleeping space has the biggest problems. It is critical and worth to improve. Different from bedding supplies for camping, disaster reliefs and military, bedding for unsheltered homeless people must meet their chronic needs and flexible requirements of changing sites. As in the New York City, the unsheltered homeless people prefer to stay in railway stations or bus stops to keep warm while in San Francisco most of the homeless live on the street, using tents. It is vital for designers to do some research about public transport sites, street management and street cleaning services to help them with sleeping space. When designing, designers need to take some references in terms of privacy design in public space, outdoor design products and temporary housing. Once the solutions meet the needs of a specific locate, designers must consider to make it more universal.

**KEY WORD** Homeless Privacy Public service Shelters

## **Introduction**

The homeless situation is becoming increasingly serious and emergent in the US. Many homeless people do not have jobs so that they could not even afford a car to live inside. It is a big issue towards government, society and the homeless themselves, but it is never completely been solved. Government has taken many actions and effort with this situation, trying to help the homeless end up with their homeless situation but the quantity of homeless people is much more than practical solutions. Also, government tend to provide some long-term solutions such as non-profit program, which cannot help the homeless solve their urgent housing problems. Public shelters are the only housing solution that the government provided. In addition to some solutions from the government, many designers came up with some ideas but only few of them are in use. Designers are more likely try to solve all problems in one design scheme and it is also hard for designers to be in their shoes. To have a better understanding of homeless design, it is vital to know current problems and their differences in different areas, research methods, relationship between the homeless and citizens and some design references. The author will give two specific examples to discuss how the different factors influence sleeping space of the homeless in different cities of different areas and how to apply this research method into other cities. Basic on meeting the needs of a specific ares, the designer need to consider cost and how to make their idea more universal.

### **1. Current situation**

Homeless situation is a common situation in the US, especially in big cities. The homeless situation is becoming increasingly serious and emergent in the US. New York City and San Francisco have the most the serious homeless problems among cities in western America and eastern America. The study shows that there were 91,897 homeless people in a given night in the New York state. The amount of the homeless per 10,000 people in general population in the New York state is 46, (National alliance to end homelessness, 2019) ranking the highest in the US. In September 2018, there were 63,025 homeless people, including 15,421 homeless families with 22,907 homeless children, sleeping each night in the New York City municipal shelter system. (Coalition for the homeless, 2018). In San Francisco, the study shows that 6857 homeless people homeless people in a given night. The amount of homeless per 10,000 people in general population in the New York City is 91.2, including 66% Unsheltered Individuals. (National alliance to end homelessness, 2019)

## **2. The cause of being homeless**

People become homeless due to different reasons such as bad relationships with family members, no income, document problems and conscious decisions to leave their homes. Research shows that the primary cause of homelessness, particularly among families, is lack of affordable housing. Surveys of homeless families have identified the following major immediate, triggering causes of homelessness: eviction; doubled-up or severely overcrowded housing; domestic violence; job loss; and hazardous housing conditions.(NYC Independent Budget Office, 2014)

### **3. Current solutions**

The government provided many solutions to help the homeless people earn a living and have abilities to afford a housing such as non-profit program, document counseling center, donation website(homeless solutions, 2019) and low-skilled, entry level job opportunities. However, they are very insufficient compare to the quantity of the homeless. They need housing urgently and then they are able to think about how to end their homeless situation. Public shelter is the only direct housing solution the homeless can have from the society, which can only service a few homeless people because of the insufficient shelters and strict entry requirements.

#### **3.1 The causes of unsheltered**

This is related to many factors for people without mental illnesses, from high requirements of entry, personal items restrictions, noisy, bad environment to fighting and being stolen. The study shows the chronic homeless people tend to sleep on streets instead of going to shelters.

##### **3.1.1 Health problems**

Many homeless people were rejected by public shelters because of their health problems, especially mental illness. Therefore, many unsheltered homeless people experience illness as well, most of them are homeless single adults. Research shows that, compared to homeless families, homeless single adults have much higher rates of serious mental illness, addiction disorders, and other severe health

problems. (M. Burt and B. Cohen, 1989) The right to shelter was a very important step toward ensuring the safety of homeless people, but municipal shelters can be very difficult places to live for those people who have experience the homeless situation for years. They are tight quarters with many rules and regulations, which can be confusing. Nearly all municipal shelters for homeless single adults have barracks-style dormitories with as many as 100 beds in a single room, and these arrangements often do not suit the needs of homeless people living with serious mental illnesses like PTSD or mood disorders. (Coalition for the homeless, 2018)

### **3.1.2 Personal items restriction**

Many homeless people have a lot of personal belongings whereas public shelters have finite space so that those who have a lot of personal items are not allowed to live. Chronic, unsheltered homeless people tend to have more personal belongings than a new homeless people.

### **3.1.3 Unsafe environment of public shelters**

Some of the homeless meet all entry requirements of the public shelter but they choose to live on the street because of the following reasons: 1. They experience the public shelters and do not like its environment such as noisy. 2. They do not have a good relationship with other people in shelters. 3. They have been stolen properties in public shelter. 4. They do not have privacy in public shelter.

## **4. Problems from homeless situation**

## **4.1 Influence on Society**

There are insufficient public shelters in big cities and many homeless people sleep on the street every night. A large amount of homeless people sleeping on the street makes the citizens feel uncomfortable and inefficient. Apart from that, the public service agencies need to address various issues related to this problem.

## **4.2 Problems from the homeless' perspective**

### **4.2.1 Mental level**

As for the homeless themselves, they want to be understood by citizens. In an interview, when being ask "What would you want people to know about the homeless" a homeless person responend that "every day they look at me they make assumptions and they judge me everyday, all day long." A homeless woman mentioned: " I wear lipstick, I do wear lipstick. My lipstick is under 3 dollars, but do they know that? No." "I don't want offend people, I want to take care of myself." (Invisible People, 2018) The homeless are care about how the citizens look at them. They need dignity. The homeless have unavoidable reasons of being homeless that other people is hard to understand, but the homeless people could realize that they have some influence on other people such as wasting space on street and they feel guilty. It is hard for citizens to understand their situation that the homeless people hardly to have enough dignity from others.

### **4.2.2 Subjective difficulties**

Apart of the mental level issue, the homeless also have many big difficulties and inconveniences. Because of the unstable situation and weather condition, the homeless people need to move around to find the right place to stay frequently. Also, they need to deal with their personal documents and paper work as well. Every time they move, they need to bring everything with them everywhere, mainly is their bedding supplies and their clothes. They need a portable sleeping space which can be extended and folded. Due to the bad weather and needs of food, the homeless prefer to stay close to public area, which also cause inconvenience to citizens.

## **5. Specific living habits of homeless people: Examples of two cities**

### **5.1 Specific conditions in New York City**

The sleeping habit of the homeless are very different between people in the east and the west. The weather in the New York City is colder than some cities in the west such as San Francisco. The homeless in the New York tend to go railway station in the winter to keep warm that they do not have a long term spot to stay on the street. They usually only need to carry a suitcase or two bags for clothing and a little food. Sometime in winter, they often go 24 hours cafe such as McDonald during the night time and stay outside during the daytime. Most of them live alone and it is hard to find the homeless stay or sleep together. They prefer separate.

### **5.2 Specific conditions in San Francisco**

As homeless people in the San Francisco, they prefer stay and put all their belongings in a tent and live

together. Usually 10-20 tents could take half of the street, which may cause inconvenience and panic to citizens. They have much more items compared to people in the New York City. Because of the larger space, they have the chance to take other items rather than bedding and clothing. An 60 years old homeless people and an artist as well, bringing his canvases and paints with him. (big government, 2018) . The reason why homeless in San Francisco have more space than the New York Cities is because of the weather. They do not have to be under a shelter to keep warm even in the winter. Also, homeless families in San Francisco take the higher proportion than New York cities. Usually homeless families are in a bigger tent while homeless individuals live in a relatively smaller tent and put them next to each other. They have enough space to sleep but it because serious problems to citizens and the homeless themselves also have big difficulties when moving. Every day when cleaning up the street, they move their belonging to next block and come back after finishing. The street cleaning service also face the difficulties because of the homeless situation.

## **6. Potential solutions**

### **6.1 General design principles**

According to the different situation, it needs different solutions to solve these problems. Designers should take both subjective and objective factors into consideration, standing from different perspectives. When designing, designers need to choose a specific city or area as a reference. First of all, making the solution meet the needs of the reference, then designers need to focus on how to make their solutions become more universal. This paper illustrates solutions for homeless specifically situated in New York City. Basic of meeting the resting need of homeless people in the New York City ,

the solution need to be more universal as possible.

### **6.1.2 An example: How to design for the homeless in New York City**

The main features of the homeless people in the New York City are individual and chronic homeless(more than one year), carrying some belongings(mainly documents and clothes), mental illness and disability to some different degrees. The common sites of the homeless to sleep are parks, busy streets, railway stations and big shopping mall nearby. Because of the need of food and some rules of street, they need to move around frequently. The design product should be portable which fit for them to go different sites. Also, it should be light enough to carry around. Three different options for this requirement: 1. The design product should be very small when carrying around or have some space to store their bedding and clothing. 2. The design product has wheels to move around. 3. The entire shape of the product is suitable for rolling or being taking advantage of carrying around. Since most of them has a lot of stuff, the storage function is very important for storing their property. The maximum space for their stuff should be more than the space 28 inches suitcase. In addition to big storage space, it also needs to have some part for holding their documents, making them convenient to access to them and keep it safe both during the night time when they sleeping and daytime that they can take care of their belongings. The interaction between the design product and the users should be simple and easy to learn. The users should be able to figure its functions from its appearance. The interaction between the design product and the users cannot take a long time because they will use it frequently at least once a day. The appearance of the product should be nice and acceptable with the environment in their common sites. In this way, the citizens may feel much more comfortable and the homeless may receive some dignity if they live like an normal person.

## **6.2 Other design references**

Designers are able to take some outdoor goods as references, to have the similar appearance for the homeless product. In addition, the product need a space to store their documents and it does not have to be easy to access, but it need to be safe and organized. The most important, the design product should provide users privacy when resting.

### **6.2.1 Privacy design in public space.**

More and more privacy design has been applied in public space and get increasingly popular. People who stay in public area for a long time need a private space. Designers need to look at public privacy design principles and try to apply them into homeless design. Privacy design in public area includes indoor and outdoor and most of them are permanent facilities. Designers need to combine the features of outdoor and indoor facilities and make it portable. Privacy design in public area need to give users privacy but also provide access to the environment, making them be aware of what is going on around.

### **6.2.2 Outdoor products and housing**

In addition to privacy design in public space, the outdoor design and temporary housing design could also be the references to designers. The appearance of outdoor products can be applied into homeless design but designers need to consider different materials and its cost. Homeless are expose to threat from other people, so the cost of product should be low enough that everyone can afford or have one from the government. Designers can do some researches about structures of temporary housing, focus on the extendable structures but also keep in mind that homeless housing need to be chronic.

### **6.3 Cost and sources of fund**

Cost is a big factor in homeless design. Designers need to think about the resource of funding and make a reasonable life span of design products. According to different situations, the designers need to think about business aspect and every step of the product. There is few designs are in use. Designers could also look at the current solutions(including housing solutions and non-housing solutions) and take advantage of them to make the design practical.

## **7. Research methods applied to other cities**

Since the situation towards different cities are different, designers need to focus on a specific city and come up with different solutions in the first place. After that, the designers need to consider similar situations in other cities(most times in the same state or under the similar weather and economic condition.) and find the similarities as the basic problems. To have a better view of the living habits of unsheltered homeless people in other cities, it is vital to look at the public services in terms of street cleaning service, public transportation and shopping mall nearby.

### **7.1 Research on public service**

The people working in public services have most interactions with homeless people. They look at the homeless every day and know their living conditions well. Apart of that, researchers need to go public shelters and have a talk because it is danger for designers go street and ask the unsheltered homeless

people directly. Many homeless people in public shelters have the experience of being unsheltered. Designers can compare their different lifestyles and figure out the reasons of being unsheltered, so that designers can know about more features of unsheltered homeless people. Also, when coming up with design product or prototype, designers can do test with sheltered homeless people, and have them compare living with designed products and living in public shelters.

## **7.2 Interviews**

It is hard to do some interview with homeless people but It is critical to know their way of thinking and find a proper way to help them. Designers could watch some interview videos of homeless people in order to know their thoughts so that designer can make their design meet the needs of mental level as well. Also, public shelters could also be a resource. It is safer to do interview with people in public shelters and it is helpful to communicate with staffs. The staffs cannot know more about homeless people, partly because they were experience homeless state before, and partly because they are able to know the way of the homeless thinking and understand them well.

## **7.3 Observing**

Observing is important when doing the research. Some people will not say the truth in the interview. It is not because their not willing to, it is because they can not realize and express their real needs. When observing, designer need to observe their activities both during the day time and night time. Apart of providing sleeping function, the design need to provide some other functions in order to meet their other needs during the daytime. The last but not the least, researchers should pay attention to the change of government policy with the homeless, and predict the tend of homeless situations.

## **Conclusion**

Design for the homeless is challenging, but it is urgent and worth to do it. There are many programs designed for the homeless to end this situation and help them find a job. However, there is few design products for solving housing problem in addition to public shelters. Many designers tried to design for unsheltered homeless people but they are not in use. It is vital for designers to do sufficient research and know how the different factors influence sleeping space of the homeless in different cities of different areas. First of all, designers need to understand that they can not solve all problems so they need to choose a specific area. Second, designers need to know living habits of the homeless in that area by doing interview on public services such as public cleaning service and public shelters, online research and observing. Last, designers could take some existing design products as references such as outdoor items and temporary housing. After coming up with solutions, designers can go back to public service to test, figuring out if the solution works. Once the idea meet the needs of the homeless in a specific area, designers need to find the similarities between the specific area and other cities, to do more test and make the solution fit for other cities as well. To make the design product more universal, designers can find the biggest problem and some features in different ares and try to solve them together by one idea. Finally, designers need to take the cost into consideration.

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