

ABSTRACT

Title of Thesis: HOME ON 7TH AND P

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Preservation

The purpose of this thesis is to address the on-going homelessness struggles cities face and provide an opportunity to lessen the number of people battling homelessness. Focusing on the DC area, the city has made attempts to end homelessness yet based on the demographics DC's majority homeless population consist of single male individuals. This is where DC is falling short in the fight to end homelessness by providing for these single individuals. Searching for gaps in the urban fabric typically where these individuals congregate, this thesis aims to provide a solution to add to the existing DC programs to further eliminate homelessness in the area.

Proposing a kit of part design solution for a sustainable construction method that can be assembled, disassembled, and transported to new sites depending on need. The kit-of-parts systems include modular wall panels, prefabricated structural frames, roof trusses, and mechanical systems such as HVAC units. By using these standardized components, builders can streamline their processes, reduce costs, and increase efficiency while still maintaining high levels of

quality. This thesis can provide necessities to the homeless such as beds, safety and security, medical support, and the ability to learn life skills.

HOME ON 7TH AND P

By

Megan Avery Bugbee

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Advisory Committee:
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Dedication

I would like to dedicate the thesis to my family. Thank you for the constant support,
Mom, Maddy, Mckayla, and Mamas.

Acknowledgements

I would like to thank Professor Juan Burke for encouraging and push me every step of the way throughout this thesis. Thank you for all the support.

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Chapter 1: Homelessness as a Whole

History of the United States

Homelessness is defined as the state of having no home. Although the definition of homelessness in the 1870s was different, it was meant to describe an individual specifically one who travels in search of work and typically looked down upon as this was a loss of character because it conflicted with the idea of the ideal home life.

During the industrial revolution in the 19th century Americans migrated to large urban centers, Boston, New York, and Philadelphia creating a shift from industrial living and surviving on farmlands to working in skilled trades to earn a wage dependent on a wealthy employer.

In the 1870's homelessness started to become a national issue, the term "tramps" was used to describe individuals who would ride the trains of the expanding railroad system who were in search of work. The term "hobo" followed quickly after in the 1880s, American literature often romanticized the idea of traveling across the country for migrate work which in turn softened the "tramp" idea previously used. When World War II began it kick started an economic engine sending the American population into work, the following three decades consisted of this flow of work yet the typical homeless individual, white male, continued to grow older (over the age of 50), disabled, and dependent on welfare or social security. Often residing in cheap hotels, flophouses, and single room occupancies in the poorest neighborhoods. These

single room occupancies would then be considered “housed” individuals according to HUD’s definition.

The Modern era of homelessness was marked in the 1980s, the major causes of this was gentrification in cities, deinstitutionalization of the mentally ill, high unemployment rates, poorly supplied affordable housing, the exposure of HIV and Aids, and budget cuts to the U.S. Department of Housing and Urban Development. This was the worst recession since the Great Depression, housing in downtown areas continued to rise while wages became stagnant and Skid Row areas that used to house single room occupancies were transformed into apartments and condominiums. The link between families facing poverty and homelessness became more prevalent during this time of struggle. Aswell as budget cuts in 1980 to Supplemental Security Income and restricting the disability eligibility process known as the Social Security Act drastically impacted the number of mentally ill individuals being able to find housing.

Under President Obama’s administration in 2010 released a federal plan to end homelessness establishing four main goals. “Prevent and end homelessness among veterans in 5 years, end chronic homelessness in 7 years, prevent and end homelessness in families, youth, and children in 10 years, and lastly set up a path to end all types of homelessness”.¹ Although this plan did not end homelessness across America was a program that brought attention to the homelessness pandemic.

¹ National Academies of Sciences et al., “The History of Homelessness in the United States.”

Estimates of People Experiencing Homelessness, 2007-2019



Fig. 1: United States Statistics 2007-2019

Shown in Figure 1, is data from HUD’s archives of statistics from the last 20 years estimating the number of people experiencing homelessness.² Overall, the numbers are decreasing slightly comparing 2007’s data to 2019’s. It is horrifying the number of people that do not have a safe place to sleep in today’s advanced society, despite all the programs and services offered there needs to be greater steps taken to lessen the number of people struggling in the United States.

² “HUD Archives.” Figure 1

History of New York City

Every city across the United States is struggling with a homelessness population and one of the major ones is New York City. Like D.C., the homeless population can be tracked back to the Great Depression due to economic changes. In the 1950s the city's housing stock and mental health policies had the largest impact on homelessness and affordable housing. Single room occupancy units (SRO) and residential hotels provided cheap and affordable housing for low-income adults and families during the post war era with about 129,000 SRO units throughout the city. Although in 1978 a decline in SRO's began to happen, the housing stock started to fall and so did the number of SRO's. From 129,000 units dropped to 25,000 in the span of a year mainly from changes in property tax and gentrification.³

In the 1970s homelessness became more prevalent when the presence of homeless men sleeping in the streets became more common. The mayor of NYC in 1986 created a housing initiative called "Housing New York" proposing 150,000 affordable apartments across the city with 15,000 of those apartments targeted specifically for the homeless. This program didn't solve the homelessness problem, but it did lead to a 29 percent drop in families and individuals experiencing homelessness. In the 90s David Dinkins became the mayor of the city and created transitional housing, permanent housing, and specialized services for those living

³ "History of Homelessness In NYC – Homelessness & Affordable Housing NYC." Figure 2

with disabilities and special needs⁴. This continued the support for the homeless and awareness of the cities need for housing and services these vulnerable people need.



Figure. 2: NYC Protest for Affordable Housing

History of Philadelphia

The city of Philadelphia, also known as the ‘City of Brotherly Love’ has a rich history, becoming the most significant shipbuilding hub for the colonies back in the 17th century. The city thrived under the leadership of William Penn and other well know individuals such as Benjamin Franklin to help build Philadelphia from the ground up. In the first world war Philadelphia a prospering shipbuilding industry but in 1918 and 1919 the Spanish flu came through the city with 500,000 citizens

⁴ “History of Homelessness In NYC – Homelessness & Affordable Housing NYC.”

contracting the flu. The population suffered, the sick and unsupported fell into homelessness, and soon to follow was the beginning of the Second World War. New roadways began to pull people out of the city in search of housing in the suburbs leaving a decline in Philadelphia industries which caused the city to suffer economically⁵

In the late 1980s a group of homeless people came together to settle in a string of vacant properties in Philadelphia. This was the time of post-industrial decline, and the explosion of the modern homelessness crisis spreading across the country. This group of homeless settlers was one of many taking advantage of vacant property in Philadelphia. Chris Sprowal, a well-known activist who led the national Union of the Homeless, demanded affordable and permanent housing to give the opportunity for people experiencing homelessness to take back control of their lives. After two days of leading this protest the group left City Hall after the city had promised to negotiate a deal with the U.S. Department of Housing and Urban Development. Sprowal and his group helped secure hundreds of publicly owned housings and planned to be transformed into transitional housing options for the unhoused. 40 years later history is repeating itself, 2020 the city took over an abundant number of vacant publicly owned property on an agreement to hand it over to a homeless led community trust. This agreement was viewed as unprecedented, but it was a familiar compromise the

⁵ Bloom, "Toward a History of Homelessness."

city has seen before back with Sprowl, although this didn't solve the homelessness issues completely the city continues to try to combat the number of unhouse people⁶.

History of Baltimore

Before the Civil War, housing in Baltimore exhibited a degree of diversity, with both white and black residents residing in proximity. However, a noticeable pattern emerged where white Baltimoreans tended to inhabit wealthier more popular streets, while Black residents predominantly occupied homes in lower income areas where crime took place. The post-war era saw an influx of Black and European immigrants to the city, alongside the introduction of new public transportation and the significant impact of the Great Baltimore Fire of 1904. These factors initiated a phenomenon known as white middle-class flight. During the early 1900s, white Baltimoreans utilized housing ordinances, homeowner's associations, and block-busting tactics to segregate and discriminate against Black residents. Initially, there were no official policies preventing wealthy and middle-class Black families from moving out of downtown areas, yet most real estate agents refrained from selling to Black buyers. If a Black family did manage to purchase a home in a predominantly white neighborhood, it was typically through direct sale from the white property owner.

⁶ Marin, "Inside Philly's 40-Year War on Homeless Encampments."

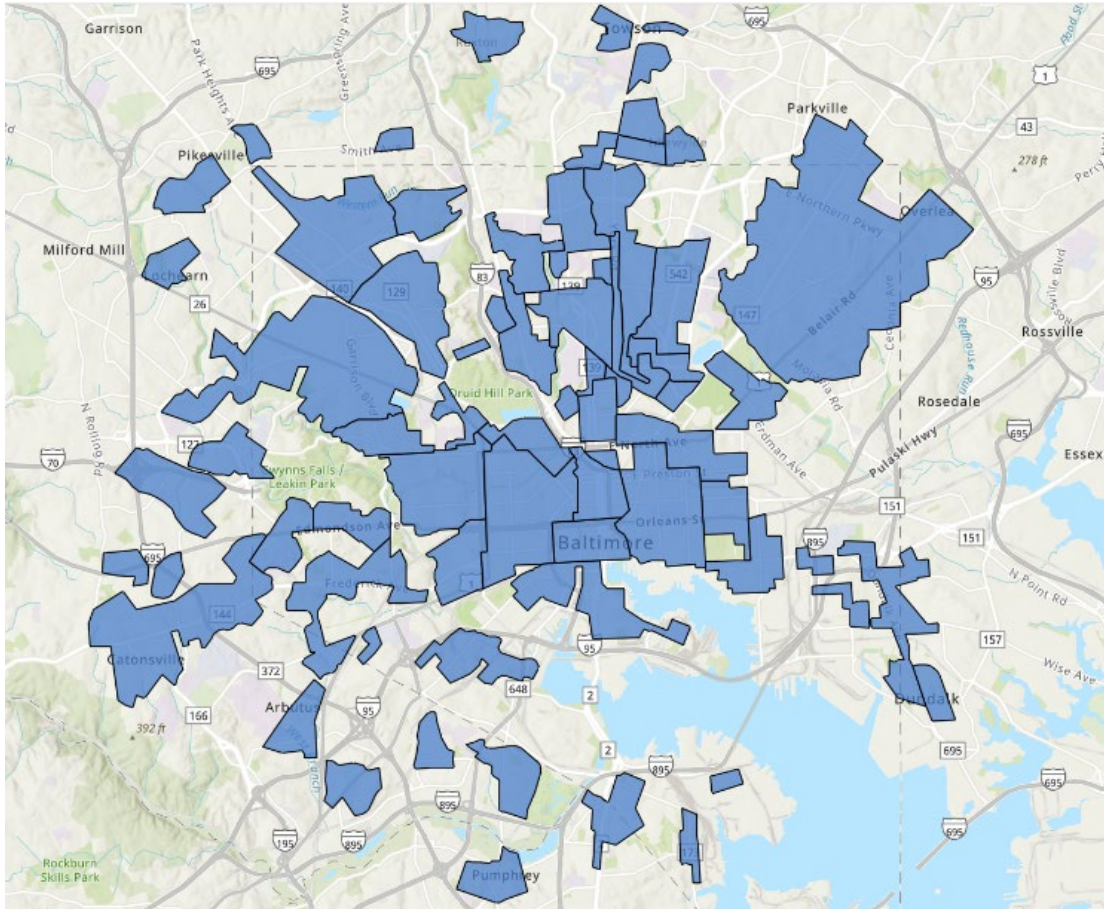


Figure. 3: HOLC Map, Risky Lending Areas

Despite legal victories, racial segregation persisted following the 1937 Home Owner Loan Corporation (HOLC) map shown in figure 3 highlights the relative riskiness of lending across neighborhoods.⁷ The early 20th century witnessed significant migration to Baltimore, including African Americans, Native Americans, and Southern white migrants, resulting in a population surge of approximately 175,000 new residents in the 1910s and '20s. The Great Depression and World War II exacerbated these demographic shifts. Although wartime industries offered new economic prospects, Black residents faced discrimination in both employment and

⁷ "The Baltimore 'Redlining' Map." Figure 3

housing. To alleviate overcrowding in Black neighborhoods during the mid to late 1950s, Baltimore City constructed high-rise public housing developments intended for working-class residents, many Black Baltimoreans viewed these projects, such as Lafayette Courts⁸, Flag House Courts, the Murphy Homes, and the Perkins Homes, as tools of further segregation rather than genuine solutions for housing needs. Initially, these developments provided an improvement over dilapidated slum housing, offering community programs and amenities. However, between 1955 and 1990, these high-rise developments deteriorated due to neglect, lack of investment, and rising crime rates leading to a spike in homelessness in the city.



Figure 4: Lafayette Perspective

⁸ "Lafayette Courts Perspective." Figure 4

Consequently, Baltimore City began demolishing these structures starting in the 1990s, with Lafayette Courts being razed in 1995, followed by Flag House Courts and the Murphy Homes in 1999, and Perkins Homes in 2019. Mixed-income housing replaced many of these demolished communities. Despite these efforts, housing discrimination persists in Baltimore, both through governmental policies and practices of private lenders⁹.

History of DC

In 1961 President Kennedy and his administration attempted to improve the welfare of the mentally ill by moving patients out of institutions and into society. This attempt unfortunately released patients onto the street and due to lack of supervision these patients ended up getting arrested or homeless. Over the course of the next 10 years homeless numbers grew, the Johnson Presidency attempted to address this issue by the anti-poverty enactments which only provided aid indirectly. In the 70s men returning from Vietnam suffered from trauma and/or drug addiction causing a surge in the homeless population again. During this increase the community for Creative Non-Violent institution was founded and quickly became a representation for the rights of the homeless. In the 80s, population continued to grow with an increase of heroin and crack users, along with women with children and families were starting to be counted among the homeless. D.C.¹⁰

⁹ “Baltimore’s Pursuit of Fair Housing.”

¹⁰ “The History of Homelessness in Washington, DC.”

Throughout the 90s the DC government viewed homelessness as a housing issue while providing a emergency shelter that offered limited services. In 1993 the district vowed to give \$20 million over the course of five years in hopes to turn the existing care services into an integrated “Continuum of Care” idea building relationships between shelters, medical resources, and other support services. This initiative did not address the housing crisis that was a big reason for the city’s homeless population. The lack of affordable housing drove individuals and families into homelessness and the population continued to grow moving into the 2000s.^{ibid}

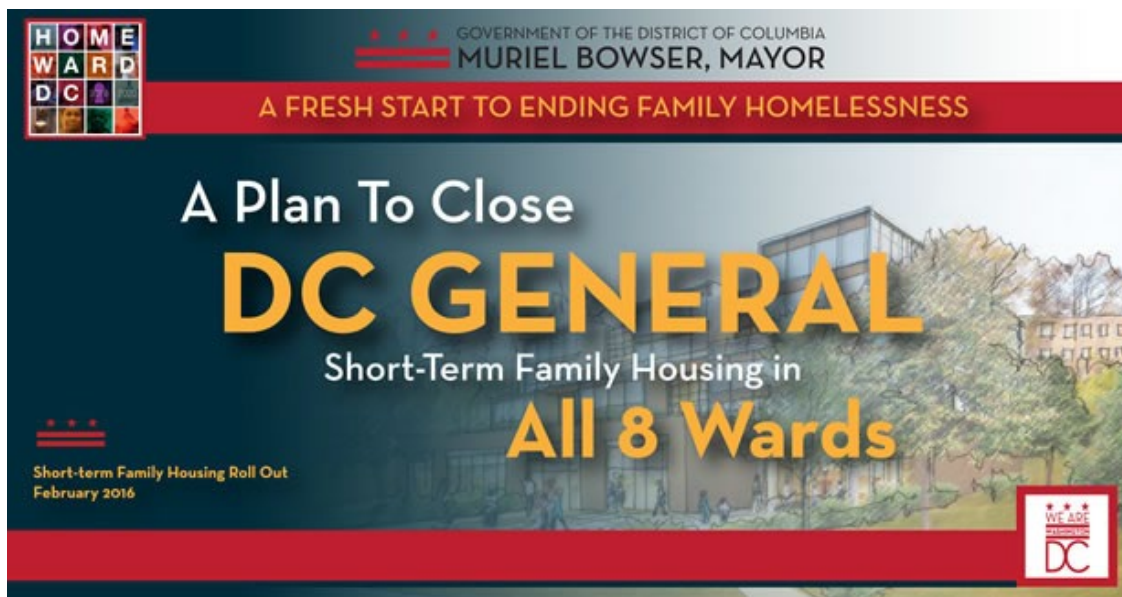


Figure 5: Mayor Bowser Plan to address homelessness in DC

Within the past 6 years the DC mayor, Mayor Bowser, made a commitment to address the homeless population. In 2018 she closed DC General Family Shelter¹¹ due to its poor housing conditions, unsafe working conditions, and isolated location to

¹¹ “ENDING DC HOMELESSNESS SHORT TERM FAMILY & PERMANENT SUPPORTIVE HOUSING.” Figure 5

properly serve families. She developed a plan to build 8 new Short-term family Housing programs in each ward of DC in hopes to serve more people conveniently. All 8 facilities were complete by 2020 and are providing medical and housing support to eligible families.¹²

Due to Mayor Bowser's efforts to build new facilities for families DC's homeless population has dropped, although only giving new support to families has shown a lack of support for single individuals. in figure 6 below shows how the support for families and cause a drastic decrease but the individual's population has stayed stagnant with the number of individuals roughly 3 time greater than families.¹³

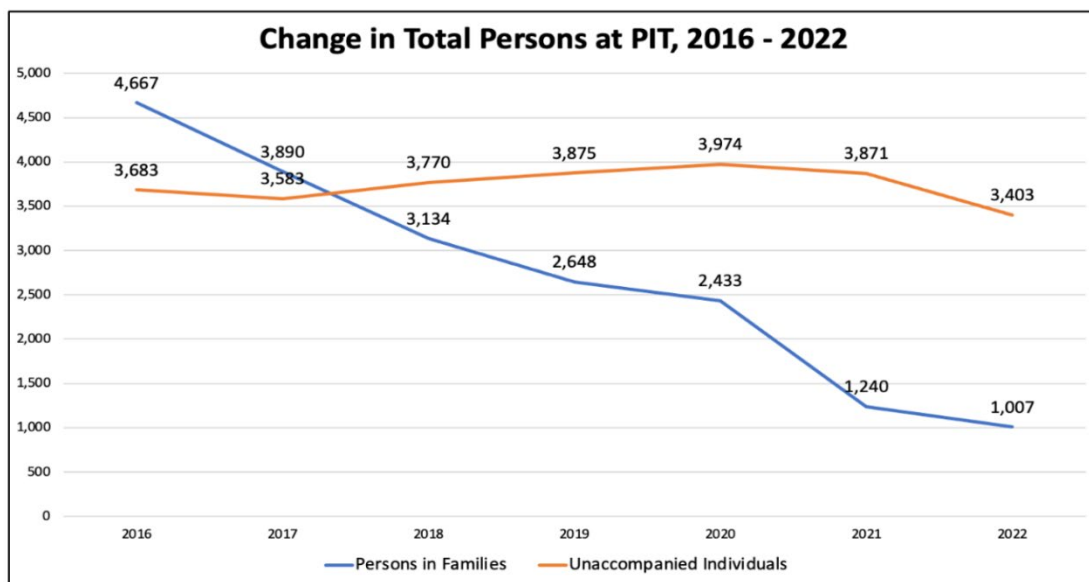


Figure 6: Comparison between families and individuals.

¹² "Homelessness In D.C. Increases For The First Time In Years." Figure 6

Chapter 2: Causes and Effects

New York City

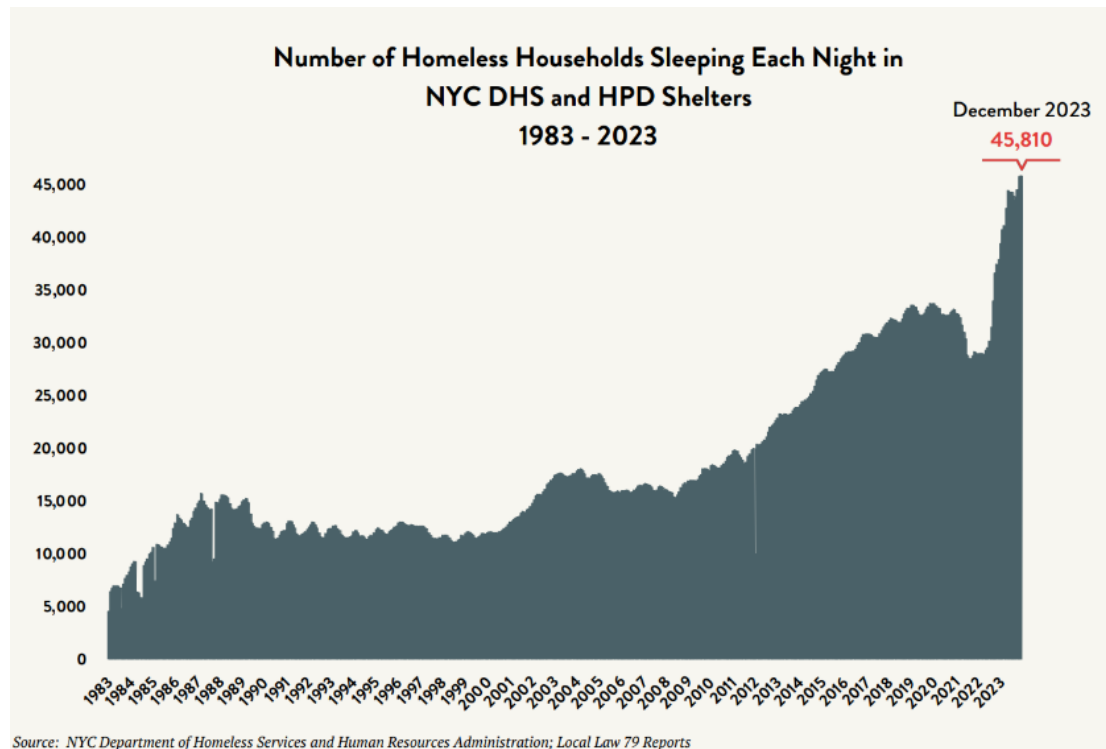


Figure 7: NYC Homeless Population Rising.

New York City is setting records for the highest levels of homelessness since the 1930s Great depression. November 2023 there was a total of 92,879 homeless people including 33,399 homeless children sleeping in New York City's shelter systems each night. By the end of December 2023, the total number of people partaking in the shelter system was approximately 123,000. There is a pattern showing families from a few of the poorest neighborhoods in the city are entering shelters. Although there are families and single individuals from every district in NYC that are entering shelters. Compared to 10 years ago homeless New Yorkers sleeping in shelters is 75 percent

higher and the major cause of this spike is lack of affordable housing. A survey conducted to find the major immediate triggers of homelessness for families is eviction, severely overcrowded housing, domestic violence, job loss, and hazardous housing conditions. Compared to families struggling with homelessness, single adults have a higher rate of serious mental illness, addiction disorders, and other severe health problems.

New York City has no accurate measurement of unsheltered homeless people who are sleeping on the streets, subways system, and other public spaces. In recent surveys the city discovered they have significantly underestimated the number of unsheltered New Yorkers.¹⁴

The insufficient housing supply in the city has become the number one cause of the homelessness problem. Mayor Bill de Blasio and his administration promised to fund 15,000 units of supportive housing over 15 years back in 2015. Shortly after Governor Cuomo announced that New York State would create 20,000 supportive housing units over the same course of 15 years. Unfortunately, only 6,000 units had been funded by 2019, even with the promise of these commitments the production of new supportive housing has developed slowly. With the few supportive housing that have been provided the number of homeless single adults moving into the units

¹⁴ “Basic Facts About Homelessness.” Figure 7
Ibid., 13

reached a 14-year low while the number of homeless entering shelters reached an all-time high. ^{ibid}

The need for supportive housing is high but to entice individuals to take advantage of it the units/ developments need to be designed and rethought to attract the population in need.

Philadelphia

Philadelphia is another city struggling with homelessness and similarly to other cities, Philadelphia struggles with alike causes. With a 21.7 percent poverty rate which is one of the highest in the nation, and 11.7 percent are living in deep poverty in 2021. In 2022 the city's average unemployment rate was 5.9 percent which was just above the national average of 5.8 percent. Another cause is the cost of housing and minimum wage do not balance out to afford a modest one-bedroom apartment. Along with the lack of affordable health care, 7 percent of residents are living without health care services, making Philadelphia County ranked the worst county to provide adequate health care. The struggle with domestic violence in the city is also a significant contributor to the homeless population, on an average night 250

individuals who are experiencing homelessness self-report as a victim of domestic violence.¹⁵

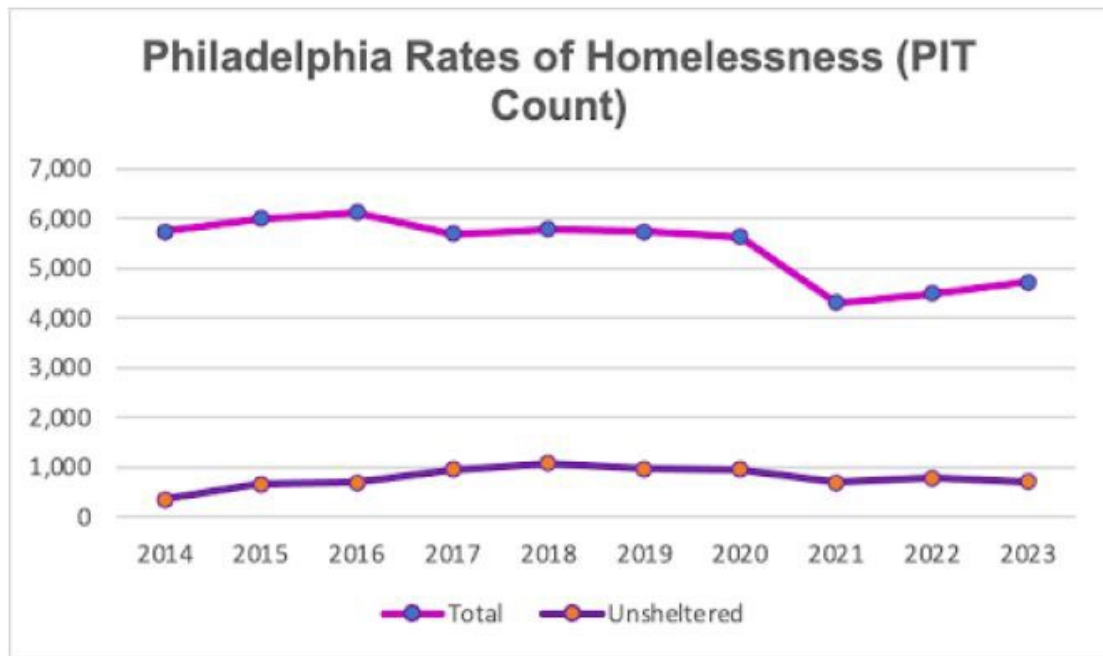


Figure 8: Philadelphia PIT Data.

There are programs throughout the city that offer aid and support to these struggling individuals. The Project HOME program has provided a holistic approach to prevent and end homelessness, permanent supportive housing, increasing employment opportunities, increase income and education, and access to affordable healthcare.¹⁶

Women against Abuse is another service that is available to provide support to domestic violence survivors with 24/7 operation. One in four women and one in ten men will experience sexual violence, physical violence and or stalking. Within a year Philadelphia Police respond to more than 100,000 9-1-1 calls related to domestic

¹⁵ Fuller, "Guest Commentary." Figure 8

¹⁶ "Facts on Homelessness | Project HOME."

violence while Domestic Violence Hotlines were forced to turn away 1,177 people in seek of shelter in 2022 due to not enough resources such as emergency beds to accommodate everyone in need. Women Against Abuses mission is to provide quality, compassionate, and nonjudgment services to help build self-respect and independence in a person who is experiencing intimate partner violence in hopes to end domestic violence through advocacy and community education.¹⁷ Philadelphia offers two types of intake centers, Daytime centers such as Appletree Family Center, Roosevelt Darby Center, and The Veteran Multi-Service Center that was available Mondays-Fridays during typical work hours. The other are after-hour centers that offer services for families, single men, and single woman. These after hour centers offer shelter at night 7 days a week.¹⁸

With all the services offered to the homeless in Philadelphia it is still not enough to get all the homeless people off the street or out of poor situations. There is still a need for more beds, greater access to healthcare, and affordable housing.

Baltimore

Baltimore City has approximately 1,600 men, women, and children experiencing homelessness on any given night. The number one reason why is the lack of affordable housing, along with low incomes and limited access to comprehensive

¹⁷ “Domestic Violence in Philadelphia.”

¹⁸ “Visit a City-Funded Homeless Intake Center | Services.” Figure 9

services following close behind. Additional challenges to this issue are disabilities and chronic illness, substance abuse, and mental illness.



Figure 9: Baltimore's Plan of Action

According to the Mayor's Office of Homeless Services (MOHS) their mission for the city regarding homelessness is to make it rare, brief, and nonrecurring through a trauma-informed, data-driven, and person-centered approach. There is a three-year action plan that is broken down into 5 strategies to combat the homeless struggles in

the city. Strategy 1 is to “Increase the supply of Affordable Housing” with sub goals such as creating a new local voucher program, analyzing current housing inventory and need, and increase investments in rapid rehousing. Strategy 2 is “create a More Effective Homeless Response System”, this includes system wide outreach strategies, implement standards of care and training plans, and creating a homeless prevention and diversion program. Strategy 3 is “Transform the Shelter System” by improving current physical conditions and service delivery along with developing a city-wide transportation initiative. Strategy 4 includes ideas to “Improve Access to Employment and Economic Opportunities” by integrating employment and income resources, and reforming policies and practices to support economic opportunities. The last strategy is to “Establish a Race Equity Agenda” that will revise disproportionate data collection strategies and provide training and technical assistance on race equity.¹⁹

Baltimore is a smaller scale city, but it is displaying the same causes and effects of homelessness that are found in other cities on different scales. The use of this three-year action plan hopefully will produce positive outcomes and decrease the number of individuals and children experiencing homelessness.

¹⁹ “Action Plan on Homelessness.” Figure 10

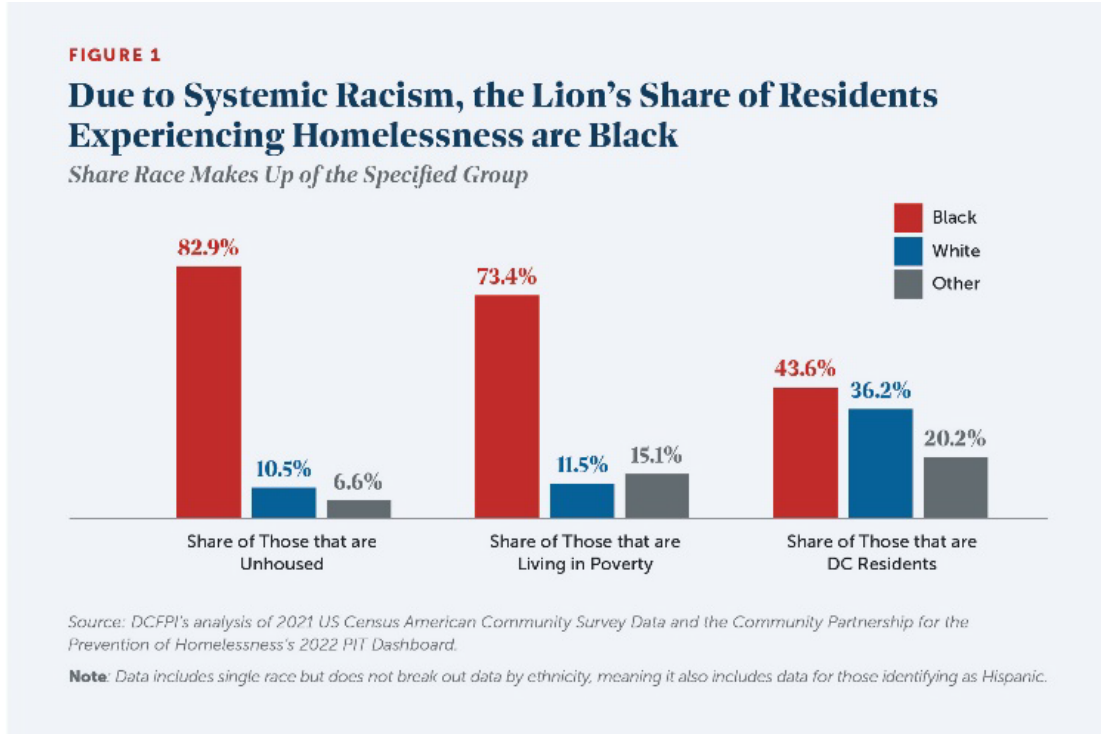


Figure 10: DC Demographics.

The reasons for homelessness in DC are complex and include risk factors that contribute to the growing amount of homelessness in the city. One of the larger causes to the homeless rate is driven by the lack of affordable housing, the scarcity of affordable housing and cost of rental housing are the main contributors of an individual's likely hood of experiencing homelessness. Based on demographic data shown to the right, black individuals make up the majority of DC homeless population because of racism. Poverty is a major factor due to racism and in the District, Black residence is five time more likely as white residence to live on income that falls below the poverty line. Incarceration is another factor that leads to homelessness in the black citizens. More than 90 percent of D.C.'s incarcerated residents are black and nearly 96 percent of D.C.'s returning citizens are black. In

2020, 35 percent of Black renters, 26 percent of Latinx renters, and 23 percent of Asian renters were severely cost burdened compared to only 13 percent of white renters.

It is also common for young residents that grew up in foster care to slip into homelessness after exiting the foster care system. In a survey taken in 2019 recorded fifteen percent of unhoused individuals reported foster care involvement while only 2.6 percent of American adults have been in foster care.²⁰

Despite these statistics the district provides several options for people struggling with homelessness. Emergency shelters are available for adults struggling with homelessness by providing beds on a first come, first served basis to anyone who does not have a safe place to sleep. These shelters offer a warm and safe place to sleep along with case management and site assessments. Day services and Outreach are day centers that provide a safe and dignified place to go to during the day to perform everyday needs and access long-term care. The Outreach Network provides strategic support to individuals who are homeless or in locations that are not fit for human habitation. Here individuals can get access to case management, housing support, public benefits, physical and behavioral health care, and other resources. Lastly are Housing Programs that are offered by the Department of Housing Services (DHS) to provide transitional and permanent housing programs to the residents in D.C. who are homeless or at risk of becoming homeless. Rapid Rehousing, Targeted

²⁰ Coventry, “Bringing It All Home.”

Affordable Housing, and Permanent Supportive Housing are the three programs that the DHS offers and all need referrals through the Coordinated Assessment and Housing Placement (CAHP) system.²¹

²¹ “Services for Individuals Experiencing Homelessness | Dhs.”

Chapter 3: Current Housing Strategies in DC

Washington, DC is committed to providing resources and services for individuals experiencing homelessness. Providing these services gives the homeless a sense of security, place of comfort, and ability to grow.

Shelters and Day Centers



Figure 11: Renovated Downtown Day Services Center.

There is a total of 20 day centers in the DC area, majority of these centers offer hot meals, showers, housing services, case management, healthcare clinic, life skill workshops, harm reduction, restrooms, laundry, employment assistance, social activities, and computer skills. It is most common for day centers to be open during normal working hours Monday – Friday 9am – 5pm and closed on weekends or open for a short duration such as 10am – 3pm. For example, “Downtown Day Services

Center”²² Operated by the Downtown DC Business Improvement District (BID) and the Department of Human Services and services from Pathways to Housing DC follows this schedule. However, “Adams Place Day Center” another well-known day center in DC operates on a 7-day weekly schedule but only offers select services in certain time frames throughout the day. ²³

Day centers are vital to the improvement of the everyday life of someone struggling with homelessness. Having access to sanitary facilities and food and necessities to survive but the additional services like health care treatment, job opportunity, case management, and life skill workshops are vital resources to give someone the foundation needed to begin to start supporting themselves again.

DC also has an abundant number of overnight shelters the offer similar services, but these are places the homeless can seek out to sleep over night. There are roughly 28 shelters scattered across DC that are well established with the focus on providing housing, aside from smaller organizations and charities that may offer other services such as addiction help. The majority of the shelter accommodate to single men due statistic the majority of the homeless population is black men in DC. There are about 12 Women and family shelters, while women and men are welcome at most shelters there are select few that only accommodate women, or only men.

²² Murakami, “A Shower at D.C.’s New Day Services Center Leaves One Homeless Man Feeling More than Clean.” Figure 11

²³ “Day Services Centers | Dhs.”

Shelters usually work on a first come first serve basis, for anyone that does not have access to a safe place to sleep. These shelters offer a space that is warm and secure along with typical case management assistants like services offered in day centers.²⁴

Transitional Housing

Washington DC already has a guide for transitional housing targeted for families experiencing homelessness. These are supportive housing programs that are designed to be an intermediate step between emergency shelter and permanent housing. To qualify for transitional housing there are eligibility requirements and programming can vary between programs offered by different organizations, but key themes are offered like life skills, support, supervision, and life structure. In DC the only way families can be connected to Transitional Housing is by the Virginia Williams Family Resource Center (VWFRC) or matched through the Family-Coordinated Assessment and Housing Placement (CAHP).

There are a few transitional housing programs throughout the city but there are 3 that are more well known compared to the others. The first is Kia's Place, it is a transitional housing for young adults between the ages of 18-24 operated by Echelon Community Services. Like other shelters and day centers it offers services to break barriers, obtain new goals to become a more productive citizen in the community.

²⁴ "Day Services Centers | Dhs."

Another transitional housing program is Ionia Whipper Home²⁵, which also serves young adults and is operated by Edgewood Brookland Family Support Collaborative. Their program is designed to provide short term family housing for up to six months while also providing aftercare support. The Whipper Home offers communal kitchen space, dining room, and conference rooms. The private rooms have beds, bathrooms, toys for children, refrigerators, and more to help support the family occupying the space.

Fig. 12: DC Transitional Housing- Whipper House



Figure 12: DC Transitional Housing- Partner Arms 3

Partner Arms 3²⁶ is the third transitional housing program also in DC for homeless families. Unlike Whipper Home²⁷ where care is only allotted up to six months,

²⁵ “Ionia R. Whipper Home Historical Marker.” Figure 12

²⁶ “Developing Affordable Housing.” Figure 13

²⁷ “Developing Affordable Housing.”

Partner Arms 3 offers 24 months with the goal of leaving their services and moving onto permanent housing. There program offers 13 units for chronically homeless families that are also dual diagnosed with mental or physical disabilities and suffer from domestic violence, or chronic illness. These families have access to a supportive case manager, are invited to community events held in the building along with access to a private garden space. The project was funded by the Housing Production Trust Fund (HPTF) along with a grant from the Department of Behavioral Health (DBH).²⁸

These three programs are targeting families and young adults but there is no mention of a program that targets single male individuals for all ages. Moving forward with this thesis offering transitional housing for single individuals of all ages would help fill the gap in DC's current transitional housing program.

Permanent Supportive Housing

Ideally when an individual or family moves on from a transitional housing program the next step is to move into Permanent Supportive Housing. Permanent Supportive Housing provides long-term housing vouchers and intensive case management to individuals and families who have experienced chronic homelessness and are at continued risk of becoming homeless. These vouchers come in three sub programs that provide housing services, the first is Tenant-Based. The voucher would be issued to the tenant and the tenant can select a unit anywhere in the district of their choosing. The second is Project-Based, this voucher is attached to a specific unit instead of a

tenant. The third is Local Veterans, this is for chronically homeless individuals with other than honorable/dishonorable discharge from the US military who are not eligible for Veteran Health Administration services. This program operates like Tenant-Based vouchers.

Permanent Supportive Housing in DC requires eligibility requirements, such as documentation of 1+ years of chronic homelessness, limited income earning, and need for case management. While there is a case manager assigned to individuals or families it is also expected that the individuals receiving the help connect at a minimum of four times a month and participate in activities to further their growth as citizens.²⁹

Everyone Home DC is a popular Permanent Supportive Housing program designed to support 30 families in Washington. These families are scattered throughout the city and pay a portion of their income towards their monthly rent. The program offers ongoing resources to support the families to lead healthy, stable, fulfilling lives with the help of case managers, regular home visits, workshops to maintain long-term stability, and subsidized housing.^{ibid}

²⁹ “Permanent Supportive Housing for Individuals and Families (Project Based, Tenant Based, Local Veterans) | Dhs.”
Ibib., 20

Targeted Affordable Housing

Targeted Affordable Housing (TAH) is a subgroup of Permanent Housing, the TAH program provides a permanent housing subsidy grant to individuals and families with case management. Although unlike the other programs involving case management that would be involved in a multiple check-in per month this is typically only a quarterly check-in to ensure housing stability. The TAH program allows for individuals and families to be more independent but still allows appropriate assistance that is needed to keep them from falling into homelessness. This typically targets people with disabilities, age, or other socioeconomic factors that require long term subsidy assistance. TAH encourages involvement in community service but does not require intensive services to remain a part of the program.

The Department of Human Services is responsible for assigning the case managers or social workers and like the other housing programs mentioned above, family and individuals need referrals from the Coordinated Assessment and Housing Placement (CAHP) system to be eligible for the TAH program.³⁰

³⁰ “Targeted Affordable Housing for Individuals and Families | Dhs.”

Chapter 4: DC Transitional Housing Precedents

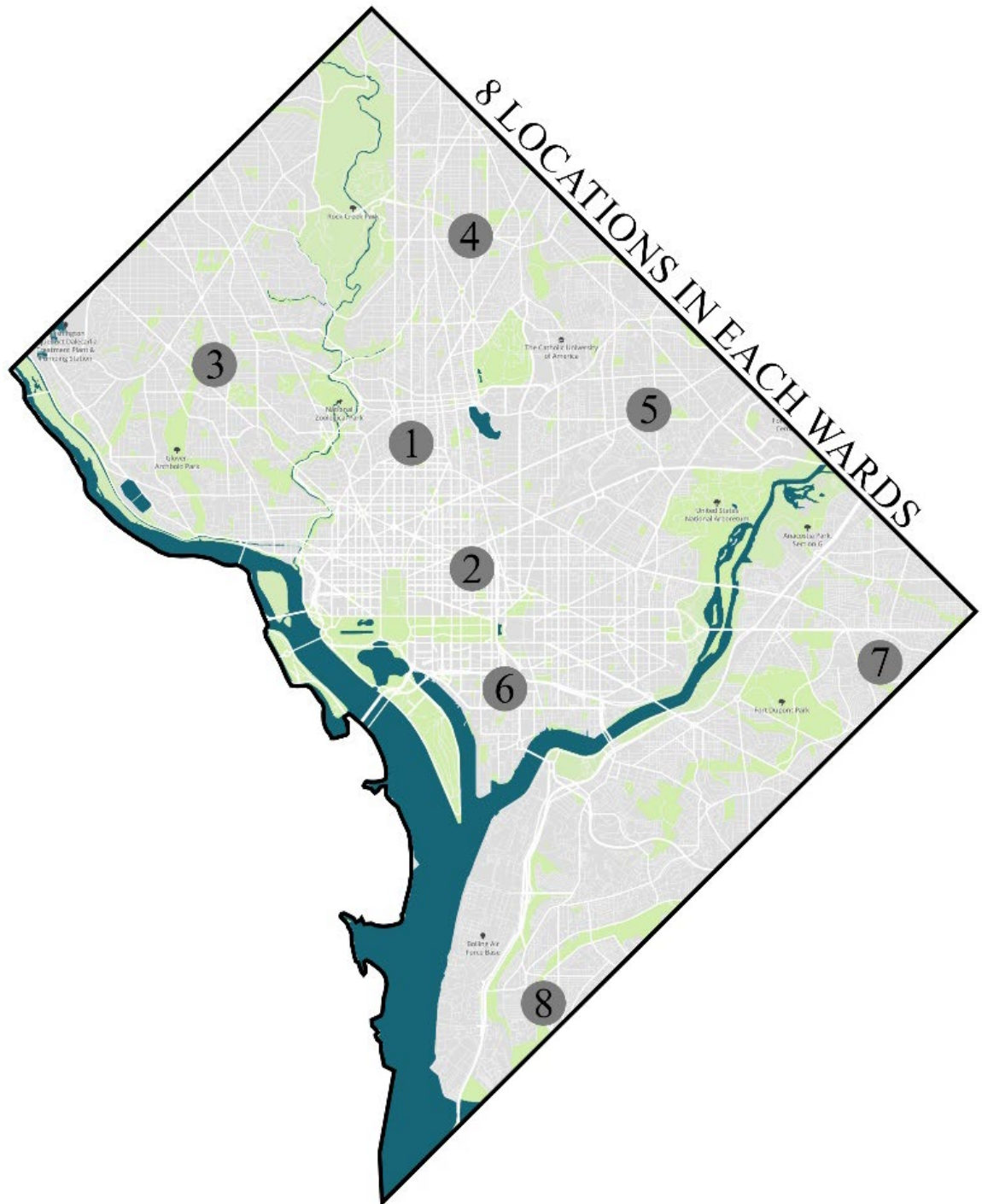


Fig. 13: DC Transitional Housing Locations in Each Ward.

In 2015, Mayor Bowser released Homeward DC, a plan to end long-term homelessness in the District of Columbia. There used to be a citywide homeless shelter in the General Hospital but in 2018 the district shut it down for being criticized for poor living conditions, serious safety concerns and a lack of supporting services. To replace the citywide shelter the district developed 8 short term emergency housing facilities, one for each of the city's political wards. This is the most recent attempt at tackling the homeless issue, and more effective than the previous citywide shelter as these new shelters is more accessible to potential clients across the city. This chapter will explore what these new shelter s are offering the homeless population and determine if anything is still lacking.

The Aya



Fig. 14: The Aya

Taking a deeper dive at ward 6, the Aya, designed by Studio Twenty-Seven Architecture/Leo A. Daly was built on a District owned vacant parcel in the

Southwest Waterfront neighborhood. The project is a supportive housing development that opened in 2020 and is one of the eight emergency housing facilities the Districted vowed to build and fully financed, the Aya was \$24 million development through bond issuances. The community was very involved in the design of the building, a special advisory team was put together with members from the city government, civic groups, homeless service providers, and the local elementary school served as primary community members throughout the design process.³¹

The Aya has 50 units that serve people experiencing, or close to becoming homeless, the residents are mostly families with small children. The ground floor offers access to onsite amenities and support services such as a community health service clinic while the rest of the building promotes interaction among the residents and surrounding urban area. Each floor has 7 to 10 apartments, including a community room with outdoor space, children's play area, and laundry facilities. The apartments consist of two-, three-, and four-bedroom layouts that are fully furnished to accommodate the families that are the main client. There is no set time limit set for the length of stay for occupants, but the average length of stay varies between 30 to 90 days.

³¹ "Washington, D.C. Builds Transitional Housing in the Southwest Waterfront Neighborhood | HUD USER." Figure 14

The location of the Aya offers residents a 10-minute walk to grocery stores, a public library, park, and a recreation center. While also being relatively close to the National Mall this offers families free access to world-class museums and monuments. With access to the Metrorail station half a mile away residents are exposed to an abundant number of jobs, services, and amenities in the DC, Maryland, and Virginia area.³²

When designing the Aya, Studio Twenty-Seven Architecture wanted to enforce the idea of a built-in community system within the project. Each floor features a different organizing color to create that sense of community between individual floors while also providing a ease of orientation. This idea is followed when analyzing the four facades, the north façade looks out to the Capital, this is where the community rooms are located. The south façade brings emphasis to the health clinic's main entrance while the east façade has screened outdoor play space for children on each floor. Lastly the west façade includes balcony space for units which creates a front lawn effect for the residence and building.³³

³² "Washington, D.C. Builds Transitional Housing in the Southwest Waterfront Neighborhood | HUD USER."

³³ "The Aya - StudioTwentySevenArchitecture."

The Triumph

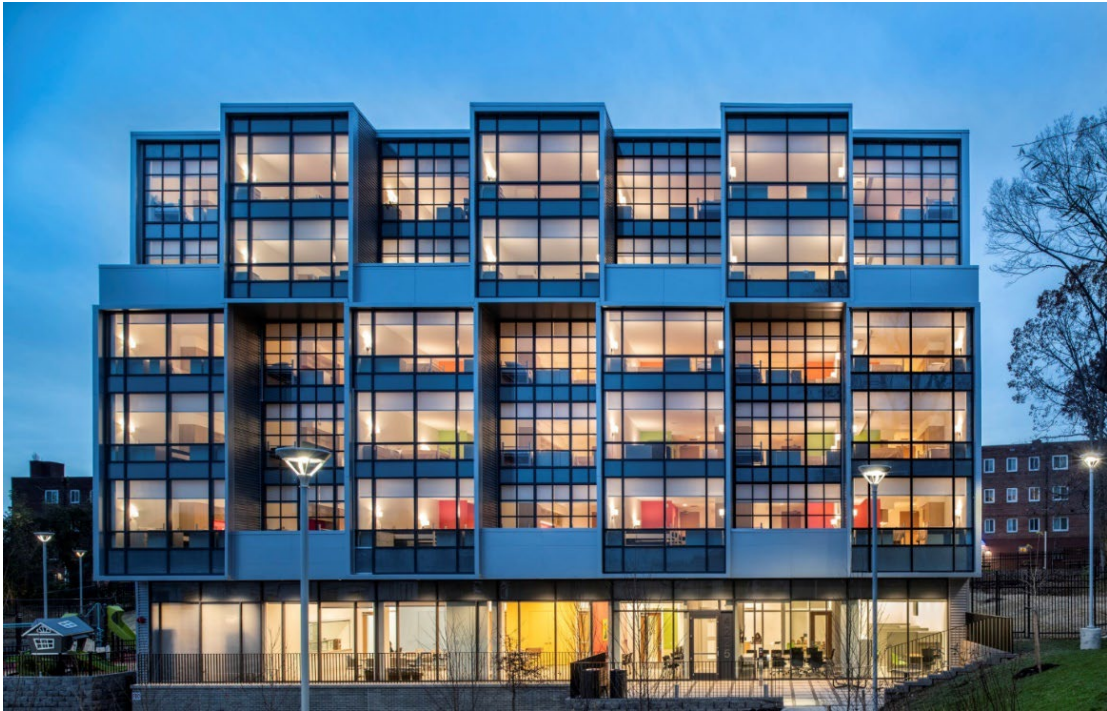


Figure 15: The Triumph

The new short-term housing project located in Ward 8 is also focused on family housing similar to the Aya in ward 6. Design by DLR Group the Triumph³⁴ was based on eliminating the negative institutional perception that often comes with similar short-term family housing while being integrated within the existing residential neighborhood. The project is 36,000 sqft providing 50 residential family units along with laundry services, study space, and common rooms. A similar program used for the Aya, the ground floor houses resident amenities such as a computer lab, dining facility, a health care clinic, and multipurpose rooms.³⁵

³⁴ “District of Columbia’s Ward 8 Celebrates the Triumph.” Figure 15

³⁵ “District of Columbia’s Ward 8 Celebrates the Triumph.”

The project is six stories and follows the programmatic requirements including ten units maximum per floor. The new building is nestled into a low-rise residential building neighborhood with taller four to five story structures to the north and west, to help prevent feeling out of place due to the height change difference the design integrates the residential context with a volumetric façade. This façade treatment connects back to the human scale while also providing a connection between the existing surrounding structures.

When thinking about safety and security the project has a large landscaped “front yard” that creates a natural buffer between street and building. At the same time, it offers shaded green space within a compact neighborhood offering release in the urban fabric and a space for community gatherings.³⁶

³⁶ “District of Columbia’s Ward 8 Celebrates the Triumph.”

The Terrell



Figure 16: The Terrell

Taking a closer look to the center city DC, the Terrell³⁷ located in ward 1 is the newly constructed shelter under Mayor Bowser plan to prevent homelessness in DC. The shelter is named after Mary Church Terrell, a well-known civil rights and suffrage activist. Unlike the Aya and the Triumph, the Terrell provides 35 apartment units ranging from 2 -3 bedrooms and the other 15 apartments are 1 bedroom dedicated to permanent supportive housing for individuals with services that includes case

³⁷ "The Terrell." Figure 16

managers and counseling. The building offers two important but different types of housing, short-term housing for families, and permanent supportive housing that require different programming and safety and security resulting in separating the two spaces. Two separate wings were designed with a visual connection to tie the separate spaces back together utilizing a central courtyard space. All apartments include large windows to emphasize the visual connection, along with personal kitchens in each apartment, and private bathrooms to offer the user private personal space. The shared common areas such as community rooms have games and books for children along with a playground in the courtyard.

Due to the smaller scale compared to the old DC General shelter families are transitioning successfully to housing within almost 3 months after entering the shelter. It is important to create a sense of peace and provide a safe space to accommodate people who have been in a state of trauma who can come into a shelter and not continue that trauma state while staying at the shelter. The Rapid Rehousing program the city offers, which provides about 1 year of rental assistance has created a financial cliff for families that end getting cycled back into homelessness. The Terrell is an example of providing support to families and more importantly skills to prevent a relapse in homelessness.³⁸

Figure 17: PIT 2023 Data

³⁸ “District Completes Ward 1 Homeless Shelter, Capping A Years-Long Effort To Build Smaller Family Shelters.”

Total Households & Persons			
		Families	Individuals
Households*	Household Total†	389	3,750
Persons	Total Persons	1,172	3,750
	Adults	466	3,741
	Minors**	706	9

Figure 17: PIT 2023 Data

Key themes stand out after analyzing Mayor Bowser attempt at providing sheltered spaces that is safe, clean, and more accessible across the city. All the new 8 shelters are the majority for families experiencing homelessness or on the path to falling into homelessness by providing short-term housing solutions. The Terrell followed this pattern although also provided 65% of housing to families and 30% to permanent supportive housing for individuals compared to the Aya and the Triumph that offered 100% of housing to only families. Based on DC's recent demographics the largest group of people struggling with homelessness are single men. According to the 2023 Point in Time Count of 2023 roughly 3,705 single persons and 389 families are experiencing homelessness every night.³⁹ Based on the demographics the need for more permanent supportive housing for individuals in the DC area is prominent.

³⁹ "Homelessness In DC." Figure 17

Chapter 5: Informed Design Techniques

The design of an occupiable space influences the mental state of the people in that usable space and reflects in user's attitudes and behavior. The purpose of this chapter is to provide design strategies that create a safe, healing, and welcoming environment for vulnerable populations and the people who serve them. As awareness spreads about the understanding how environments impact health and wellbeing, organizations can utilize these design changes and themes to improving the lives of people who struggle with homelessness.

Client Needs and Considerations

An increase in homelessness has been recorded across north America, following the Coronavirus pandemic is has only gotten worse. Inflation, workers being laid off, and the steep prices revolving the housing market have created a setback for homeless service providers. Due to the influx of people in need of emergency services and housing agencies need to provide efficient use of limited space. Although the demographic surrounding homelessness has a wide variety of people that struggle with multiple different issues it is important to understand the demographic and the design requirements needed to properly serve these groups of people.

There are 8 major categories of people involved in the unhoused population, Veterans, victims of domestic violence, addiction and substance abuse, individuals

with mental illness, chronically homeless individuals, families and children, seniors, and lastly financial need.⁴⁰

Veterans tend to suffer from lasting physical and mental health needs. Wheelchair accessibility and calming, safe spaces are design considerations that can help counteract PTSD and provide ease of mobility.

The majority of women and children experiencing homelessness are victim of domestic violence. Facility design that provides a sense of privacy and safety particularly in co-ed facilities are ideal spaces to accommodate women and children.

Individuals struggling with addiction and substance abuse need to have special design techniques that allow staff members to safely and efficiently intake clients and their personal belongings while eliminating hiding spots for contraband. Ensuring safety for not only the staff and individuals but also the safety of other clients.⁴¹

One out of three unhoused individuals suffer from mental illness. It is known that mental illness is a cause of homelessness due to playing such a large role in the homeless community spaces should be designed to create soothing environments that meet a diversity of needs. For example, some people experiencing mental health

⁴⁰ Sargent, "TRAUMA-INFORMED DESIGN FOR HOMELESS POPULATIONS."

⁴¹ Sargent.

issues may not be able to sleep in a dorm like setting, providing a variety of room options to best fit the needs of the client can result in fewer crises.⁴²

A study in 2020 showed 27 percent of individuals experiencing homelessness in the United States had consistent patterns of homelessness for 12 months or at least four times in the past three years for a period adding up to 12 months. This is referred to as being chronically homeless. Design strategies that support these individuals are installing a sense of place, respect, and ownership that encourages the person to utilize the care and services the shelter provides. Access to computers, WiFi, and mailboxes are small design features that best support chronically homeless individuals.⁴³

In the District of Columbia individual adult men account for the largest percentage of homeless population in the city⁴⁴, this is also true regarding the rest of the United States and Canada. Even though they make up much of the population they are not the only one's suffering, families and children also need to be accounted for requiring private space, spaces that encourage socialization, and areas dedicated for children such as outdoor play space.

⁴¹ Sargent.

⁴³ Sargent.

⁴⁴ "Homelessness In DC."

The elderly population also require different spaces than the general population, accessibility, mobility, acoustics, and lighting design are design criteria that can improve the living situation of seniors.

The last category the homeless population falls into may be the most obvious financial need. The strains revolving finances affect people of all ages, race, and physical health. It is important to aid those in need early to avoid mental fatigue and prevent negative stimulus.

These 8 groups that make up the homeless population need specific design considerations that provide adequate spaces for these people. Safe and secure environments are one of the biggest considerations to account for. The definition of a shelter is “to provide protection” and all the people seeking out help from shelters are searching for a welcoming safe space to turn to. Privacy works hand in hand with secure environments. Areas that offer quiet moments to relieve stress and to plan. Individual rooms that offer private bathrooms may be harder for shelters to provide due to lack of space, but these are spaces that are highly beneficial to families, people with mental health illnesses, women, and victims of crime and violence.⁴⁵

Comfort and emotional support space along with treatment and learning resources also have similar design strategies. Classrooms and access to computers help prepare clients to become independent and provide people the opportunity to search for jobs,

⁴⁵ Sargent, “TRAUMA-INFORMED DESIGN FOR HOMELESS POPULATIONS.”

which is a useful skill to have to keep from falling back into homelessness. In order for people to use these resources the shelter needs to offer a sense of comfort and a welcoming atmosphere. The goal is to remove a person from the fight or flight survival mode, using soft furniture, warm aesthetics, and wayfinding to create spaces that are comfortable, inviting, and relatable. The use of scent and cleanliness adds to the welcoming aspect of a shelter.

Health and wellbeing and natural daylight are the last two key features to consider when designing or renovating a shelter. Access to clean air, light, exercise, and nutrition are ways to support physical and mental health. Operable windows, large flexible open space, connection to nature and healthy foods through community gardens are ways to achieve this. When access to nature is not possible an alternative can be to introduce art, patterns, and color into an occupiable space. Natural daylight has been proven to promote health benefits for not only the client but also the staff working in these facilities by relieving stress and helping the body recover.⁴⁶

Staff Needs and Considerations

These shelters do not operate on their own, the staff play a key role in maintaining a safe, comforting space for incoming clients and their needs are just as important to continue to promote a healthy workplace environment. Caring for people experiencing homelessness along with the dual diagnosis on top of homelessness can

⁴⁶ Sargent.

be mentally and physically draining. The staff should be provided with a space for themselves where they can relax, eat, socialize, and hold private conversations.

Supervisors and staff tend to work irregular hours such as night and weekend shifts.

Designing that accommodate places of rest and encouraging spaces to eat properly to maintain staff performance. Providing an adequate workspace can help staff perform their jobs better and in succession clients receive better care and support. Lastly when space is available shelters should consider private bathrooms for the staff. This acts as a moment of rest and a sense of privacy from a challenging workplace setting.

To design an effective shelter the needs of the clients and staff members must be met.

Often these needs overlap with each other between staff and clients. Regardless of the type of client, race, gender, or age everyone wants to be in an environment that feels welcoming, safe, secure, and comfortable that is healthy and clean to allow us to be our best selves.⁴⁷

⁴⁷ Sargent.

Chapter 6: Trauma Informed Design Strategies

Designing for a vulnerable population requires special attention to details. This chapter covers design concepts and strategies that can be used to improve spaces occupied by these vulnerable populations. These design strategies help the visitors feel welcome and safe in these spaces provided by the shelter, but it is important to understand that not all these strategies are applicable to all projects due to code restrictions or existing conditions.

Entrances

If working with an existing building, look at the building holistically and evaluate its strengths and weaknesses. “Does the building have the capacity and infrastructure to function as intended?”⁴⁸

The first impression of the building is critical, foyers, lobbies, exterior materials, and porches are the first introduction people have to a business or organization. Providing transparency with glass doors and windows provides calming natural light into the build and transparency. Visitors or pedestrians passing by feel welcome upon entering because they can see what is happening inside.

When entering the building security measures are non-avoidable but the security measures should include a sense of comfort to welcome clients. Providing enough room for multiple clients both indoors and outdoors to keep people out of harsh

⁴⁸ Sargent.

weather conditions can lead to this idea. As well as visible security alarms, locks, and cameras help inform visitors that this is a protected space.

The reception design is the immediate next space the client will encounter after entering the building. Available of easy to find restrooms and warm accent colors such as oranges, yellows, and reds aid in making the spaces feel welcoming and calming. The most successful reception areas are clean, well lit, provide comfortable seating options and access to outlets and drinking fountains. Furniture should be arranged with people's backs against the wall, vulnerable population are often on guard of their surroundings, this design feature eliminates the fear of someone sneaking up behind a client.⁴⁹

Programming

Intake areas are typically accessed through a secondary entrance because clients arrive with personal belongings. Security check points, seating, and countertop space to place items on should be included in this area. Storage space such as personal lockers can be helpful to ensure the client feels comfortable leaving his or her items in a secure location.

A kitchen and or a hydration area should ideally be programmed next to the reception and intake area. Clients often arrive hungry and dehydrated and the ease of access to food and water can help calm the client. Shelters may want to include a quiet room

⁴⁹ Sargent.

adjacent to these spaces to allow clients who are experiencing moments of extreme stress and instability, this quiet area should help calm the person with small design details such as dimmable lighting, natural light, and door treatments for privacy.

Some of the most difficult spaces to program are the shared spaces and sleeping rooms due to the effectiveness of balancing privacy and comfort with safety and security. Shelters should provide multiple sleeping choices from large to small based on the individual's needs. All the rooms need to provide storage space for personal belongings, hard wood floors for cleaning purposes, outlets, adjustable lighting, natural light, and soothing color palettes such as pale blues and greens. Additionally, bed-bug resistant furniture and mattresses or mattress pads add an extra layer to keep these spaces clean with rotating guests coming and going. These guidelines help the staff work and clean these spaces along with creating a safe comfortable space for the client.

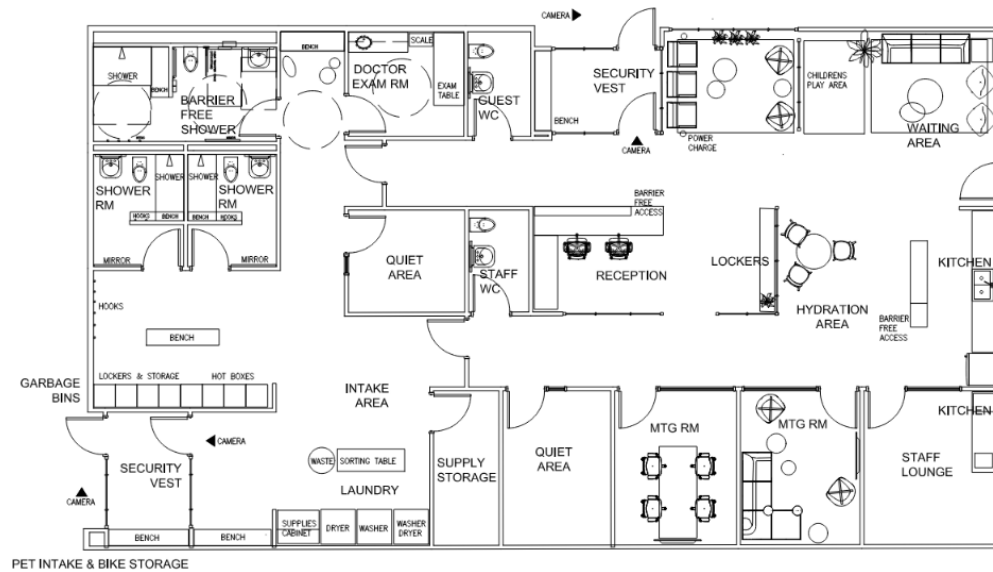
Comfort is the main goal when designing spaces in a shelter. Comfort can be subjective as what's comfortable for one person may be uncomfortable to another. But there are factors that affect everyone's sense of comfort that can be taken into consideration. Air temperature and quality of air, aesthetics, noise, and acoustics are reoccurring design opportunities to make a space feel warm and welcoming instead of institutional.

The introduction of nature into a shelter has proven to be a successful way to calm occupants. Biophilic design has been used for thousands of years by incorporating natural elements into spaces to implement soothing and therapeutic benefits to users. A study compared patients that were placed in a room with views of trees and another group were in a room that looked out to a brick wall. The patients in the room with the views of the trees recovered faster and required less pain medication. An inexpensive way to achieve this is with indoor plants, at the same time indoor plants filter and clean the air. As well as selecting wooden furniture, wood flooring, and stone accents are another easy way to incorporate biophilia into a space.⁵⁰

Renovating and building new spaces can be expensive and time consuming, these suggestions may not be plausible to all projects, but it is important that when developing a shelter that these guidelines are incorporated to provide a safe and

⁵⁰ Sargent.

comforting space to vulnerable populations. Below is an ideal example of all these suggestions incorporated into a single design.⁵¹



This floor plate for a single-gender shelter includes a reception area with clear sightlines to the waiting area and secure main entrance. A separate secure entrance allows access to laundry and storage facilities during client intake.

Figure 18: Intake Shelter Plan.

Chapter 7: Program

Program Abstract

The purpose of this thesis is to address the on-going homelessness struggles cities face and provide an opportunity to lessen the number of people battling homelessness. There are often gaps found in the urban fabric of cities due to abandoned buildings, vacant lots, or undeveloped properties. Developing these types of properties can help build a city's urban fabric while at the same time offering a space to help the homeless population. Proposing a kit of part design solution that can be adaptable to a variety of sites and locations, can provide necessities to the

⁵¹ Sargent. Figure 18

homeless such as beds, safety and security, medical support, and the ability to learn life skills. Targeting nonviolent individuals and families together can create a community to learn and lean on one another while taking steps to build a positive future.

Program Zones Graphic and Tabular

The programmatic spaces for this thesis were developed based on existing successful shelter precedents such as The Aya and The Terrell both located in DC along with the modular conceptual design from Nest Toolkit, a design proposal by Architecture firm Brooks and Scarpa in L.A.⁵²

Private Zone	Growth Zone	Communal Zone
Single Room Occupancy  x 30 Shared Room  x 20 Mechanical Room 	Health Clinic  Exam Room  Therapy  Offices 	Kitchen  Common space  Admin Space  Public Restrooms  Laundry 

Fig. 19: Program Zone Graphic.

⁵² “Brooks + Scarpa - NEST Toolkit.”

	Quantity	SQFT	Total SQFT	
Comunal Space				
Lobby Space	1	300	300	
Common Space	7	300	1500	
Public Restrooms	6	80	480	
Laundry	3	300	900	
Storage	1	300	300	
Courtyard	1	1,500	1,500	
Green House	1	1,500	1,500	
Health Clinic	1	1000	1000	
Therapy	2	450	900	
Total			7,480	
Learning Space				
Library	2	600	2,400	
Kitchen	1	800	800	
Classroom	2	850	1,700	
Computer Room	1	500	500	
Study Room	9	90	810	
Mail Room	1	350	350	
Total			6,560	
Private Space				
Apartments				
	Single Occupancy Room	36	300	10,800
	Double Occupancy Room	8	600	4,800
	Quad Occupancy Room	5	850	2,250
Admin	Offices Space	1	2,900	2,900
Mechanical		1	300	300
Total				21,050
Total Net			35990	
Circulation		15%	5,399	
Total Gross			41388.5	

Figure 20: Program Zone Square Footage.

Reverse Engineering Documentation

The Nest Toolkit was designed to address LA’s shortage of supportive housing for the homeless. The project is a solution for infill sites investigating different lot sizes with a flexible modular unit plan based on need.⁵³

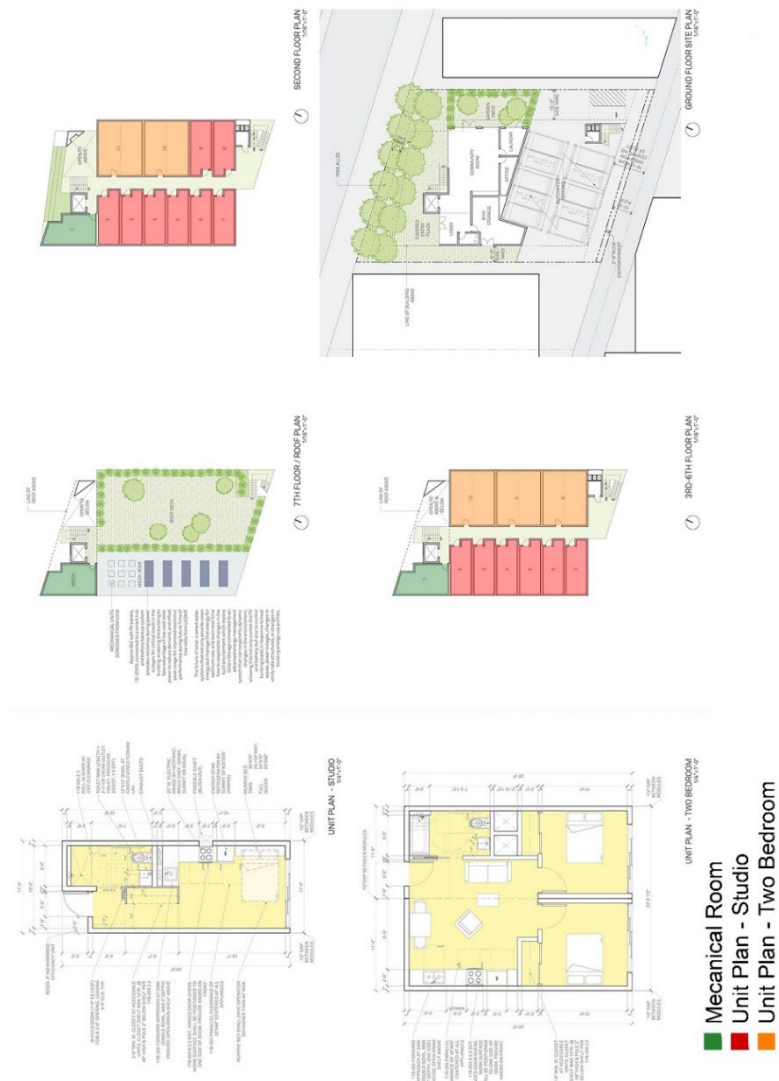


Figure 21: Reverse Engineering Project

⁵³ “Brooks + Scarpa - NEST Toolkit.”

	Quntity	Dimention	Area SQFT	Total SQFT
First Floor				
Lobby	1		190	190
Community RM	1	24'-6" x 32'-6"	796	796
Bike Storage	1	23'-0" x 25'-0"	400	400
Laundry	1	13'-0" x 13'-0"	144	144
Office	1	8'-10" x 20'-0"	112	112
Restroom	1	5'-6" x 9'-10"	54	54
Second Floor				
Unit Plan - Studio	8	11'-4" x 28'-0"	308	2,464
Unit Plan - Two Bedroom	2	22'-8" x 28'-0"	616	1,232
Mecanical Room	1	14'-6" x 26'-3"	327	327
Third				
Unit Plan - Studio	6	11'-4" x 28'-0"	308	1,848
Unit Plan - Two Bedroom	3	22'-8" x 28'-0"	616	1,848
Mecanical Room	1	14'-6" x 26'-3"	327	327
Fourth Floor				
Unit Plan - Studio	6	11'-4" x 28'-0"	308	1,848
Unit Plan - Two Bedroom	3	22'-8" x 28'-0"	616	1,848
Mecanical Room	1	14'-6" x 26'-3"	327	327
Fifth Floor				
Unit Plan - Studio	6	11'-4" x 28'-0"	308	1,848
Unit Plan - Two Bedroom	3	22'-8" x 28'-0"	616	1,848
Mecanical Room	1	14'-6" x 26'-3"	327	327
Sixth Floor				
Unit Plan - Studio	6	11'-4" x 28'-0"	308	1,848
Unit Plan - Two Bedroom	3	22'-8" x 28'-0"	616	1,848
Mecanical Room	1	14'-6" x 26'-3"	327	327
Seventh Floor/ Roof Plan				
Roof Deck Garden	1	40'-0" x 74'-0"	3064	3,064
Mecanical Room	1	14'-6" x 26'-3"	327	327
Total Net Area				25202
20% Circulation Area				5040.4
Total Gross Area				30242.4

Figure 22: Reverse Engineering Project Tabular.

Precedent Analysis

The Aya, located in Ward 6, was designed by Studio 27 Architecture, a local firm in D.C. for the Homeward Project developed by Mayor Bowser.⁵⁴ Discussed further in Chapter 4.

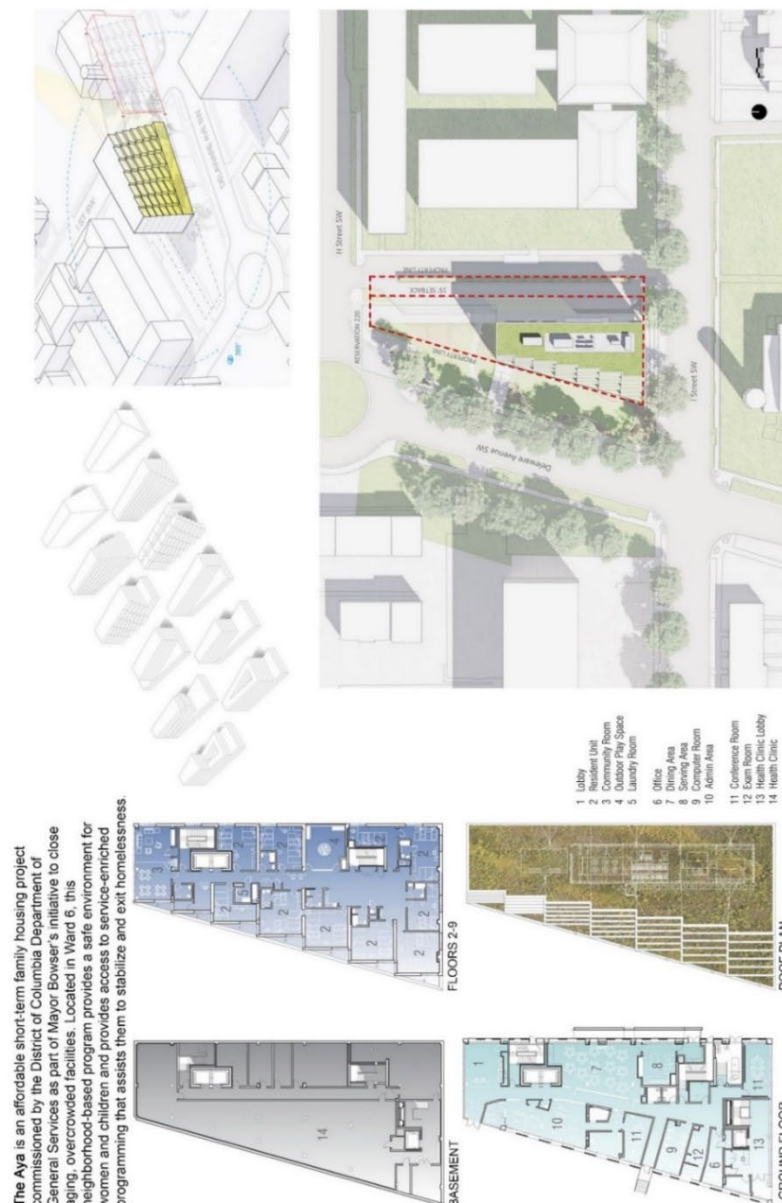


Figure 23: The Aya Building Analysis.

⁵⁴ "The Aya - StudioTwentySevenArchitecture."

[illegible]

⁵⁵ “ENDING DC HOMELESSNESS SHORT TERM FAMILY & PERMANENT SUPPORTIVE HOUSING.”

Hilda Solis Care First Village is a modular construction project for the homeless in L.A. The modular construction allowed for the project to be completed in 120 days and expedited care services to start sooner compared to other construction methods.⁵⁶



Figure 25: Hilda Solis Care First Village Building Analysis.

⁵⁶ “The Hilda L. Solis Care First Village.”

Chapter 8: Site Selection and Analysis

Site Selection Abstract

The criteria used to select the site for this thesis is based on the wants and needs of transitional housing for the homeless should include such as public transportation and the proximity to similar resources and services. It is important that the site provides a sense of safety and security using boarding sidewalks and streets to create a barrier yet not disconnecting from the surrounding contexts. Finding a place that feels welcoming to the clients and to the neighborhood is important as well as having neighborhood acceptance of the project at the chosen site.

When thinking about sustainability, selecting a site that is in need of development for neighborhood and urban growth is a driving factor in this process. Light and air is important to include, southern exposure and shared parti walls are concepts to consider when selecting the site. The selected site should take all these ideas into consideration to further stress the need for transitional housing.

Site Selection Matrix

This Site Selection Matrix includes criteria such as walk scores, the status on neighborhood acceptance, site need for development, and homeless families and individuals. Each site selected is currently vacant and in need of redevelopment to some extent.

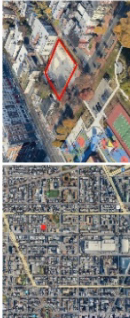
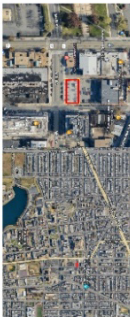
CRITERIA	SITE A 613 P St NW DC	SITE B 2031 8TH ST NW DC	SITE C 1913 MARTIN LUTHER KING JR AVE DC	SITE D 1125 G St SE DC
KEY LEAST DESIRABLE ... 1 ... 2 ... 3 ... 4 ... 5 DESIRABLE	 	 	 	 
SITE DRIVEN SAFETY & SECURITY	5	3	4	5
WELCOMING SPACE FOR CLIENT AND COMMUNITY	5	4	5	2
SITE IN NEED FOR DEVELOPMENT	5	5	5	2
ACCESS TO PUBLIC TRANSPORTATION	5	4	5	4
LIGHT AND AIR	4	2	4	5
NEIGHBORHOOD ACCEPTANCE	3	2	3	3
PROXIMITY TO OTHER RELATED SERVICES	3	2	2	5
TRANSIT SCORE	4	2	2	3
BIKE SCORE	5	4	2	3
WALK SCORE	3	5	3	4
HOMELESS SINGLES	4	3	3	2
HOMELESS FAMILIES	4	3	2	1
AVERAGE RENT PRICE IN AREA	1	1	5	2
TOTALS	51	40	45	41

Figure 26: Site Selection Matrix

Selected Sites

Before selecting potential sites, I researched DC's demographics, locations where the homeless tend to congregate, and locations of existing services the homeless can utilize. Below shows a map with the locations of housing support and health care centers shown in orange. The Purple dots identify the homes of recent families struggling with homelessness are receiving aid from organizations and the purple tone indicates where most DC'S health patients live.⁵⁷

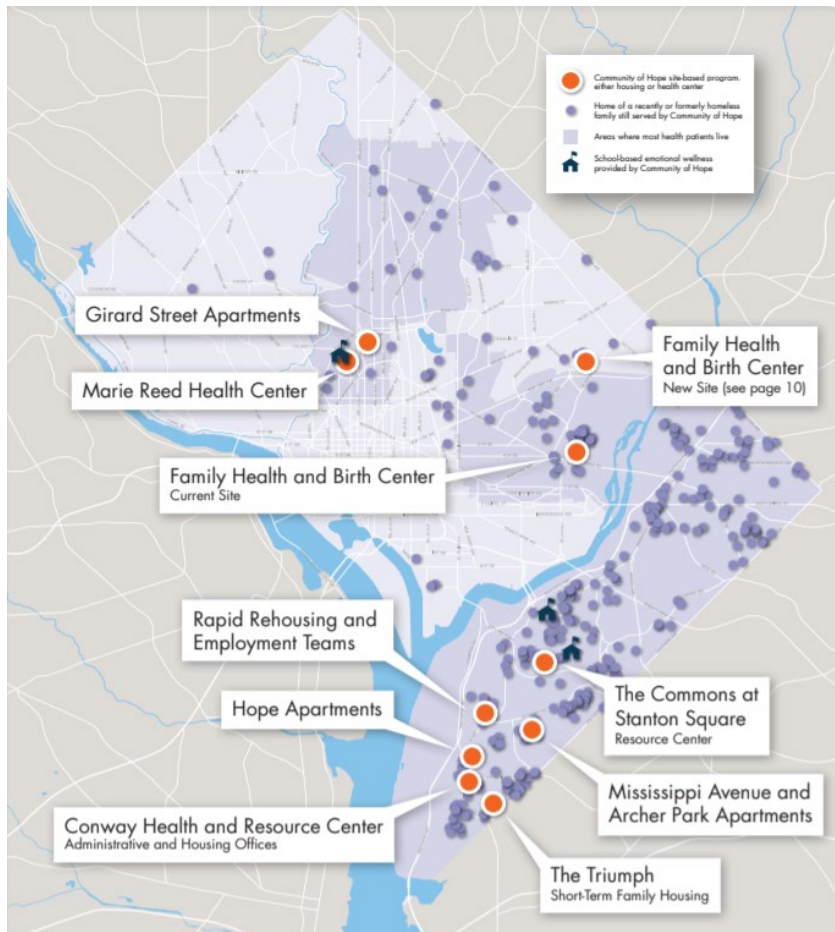


Figure 27: Locations of DC Health Services and Families battling Homelessness.

⁵⁷ "How to Access Shelter | Dhs." Figure 17

Site A

Site A, 613 P St NW is the highest scoring site based on the criteria on the Matrix score sheet. The site is located 5 blocks to the east of Logan Circle in DC and about a 5-minute walk from the Walter E. Washington Convention Center to the South.

Currently the site sits vacant on a block that consists of restaurants and townhomes that are majority also vacant. Across the street is a Community Recreation Center for families and adults.



Figure 28: Vending Machine and Needle Drop Box Provided by DC Health.

While on a site visit multiple homeless individuals were congregated on the site at a picnic table along with sleeping across the street outside at the Recreation Center. I interviewed two men walking together on the street discussing how car jackings, break ins, and drug use have become very common in the surrounding area. Located just around the corner from the site on 7th St there is a free vending machine on the sidewalk provided by DC Health. The machine sells items such as Narcan, Narcan and Fentanyl test strips, clean needles, birth control items and limited amount on snack options. Next to the machine is a dirty needle drop box presumably also provided by DC Health.

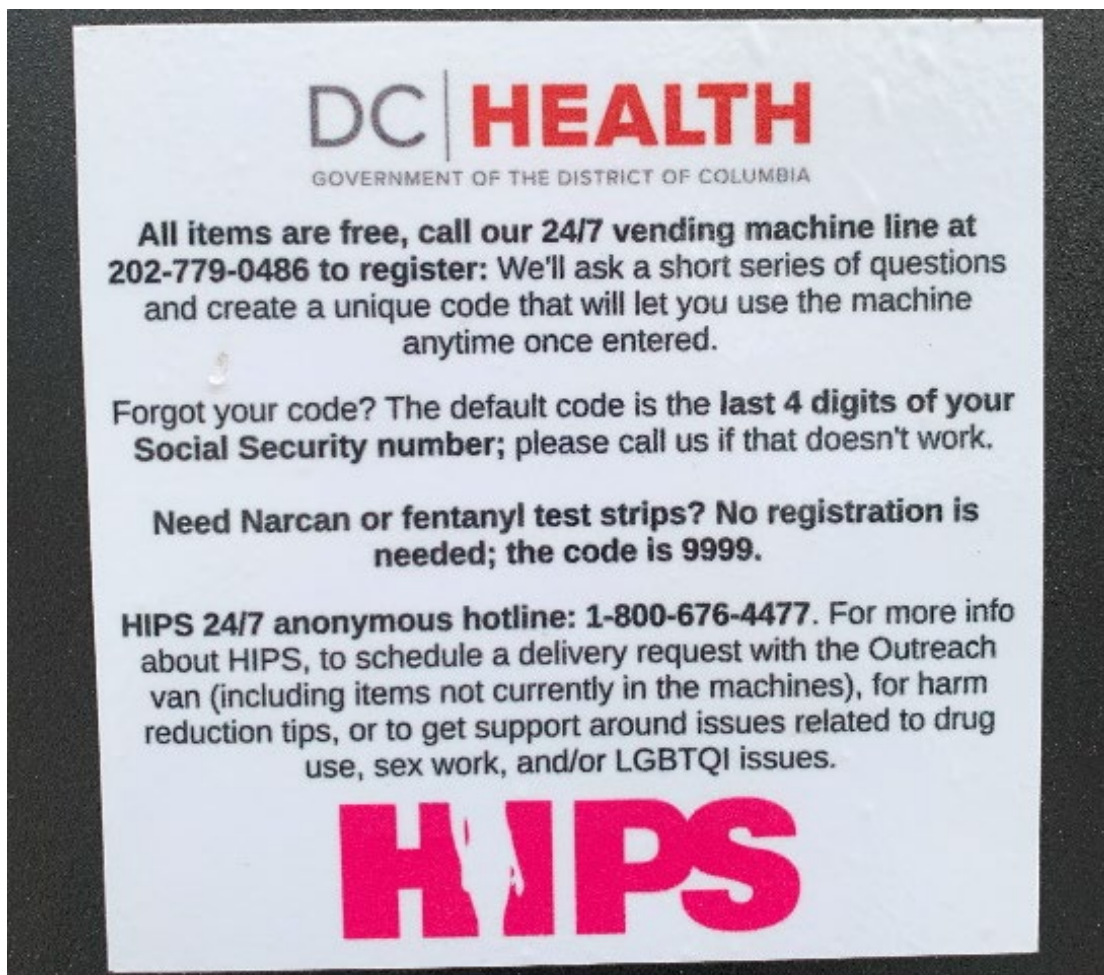


Figure 30: Message on Vending Machine Provided by DC Health.

Based on the information collected while on the site visit this site seemed to be in dire need of help. By redeveloping the site into a transitional housing for homeless men the building could fill in the gap of the current urban fabric, give potential help with the crime and drug issues with the medical and support services that would be offered in the building and provide the existing homeless adults that already occupy the site a safe place to go.

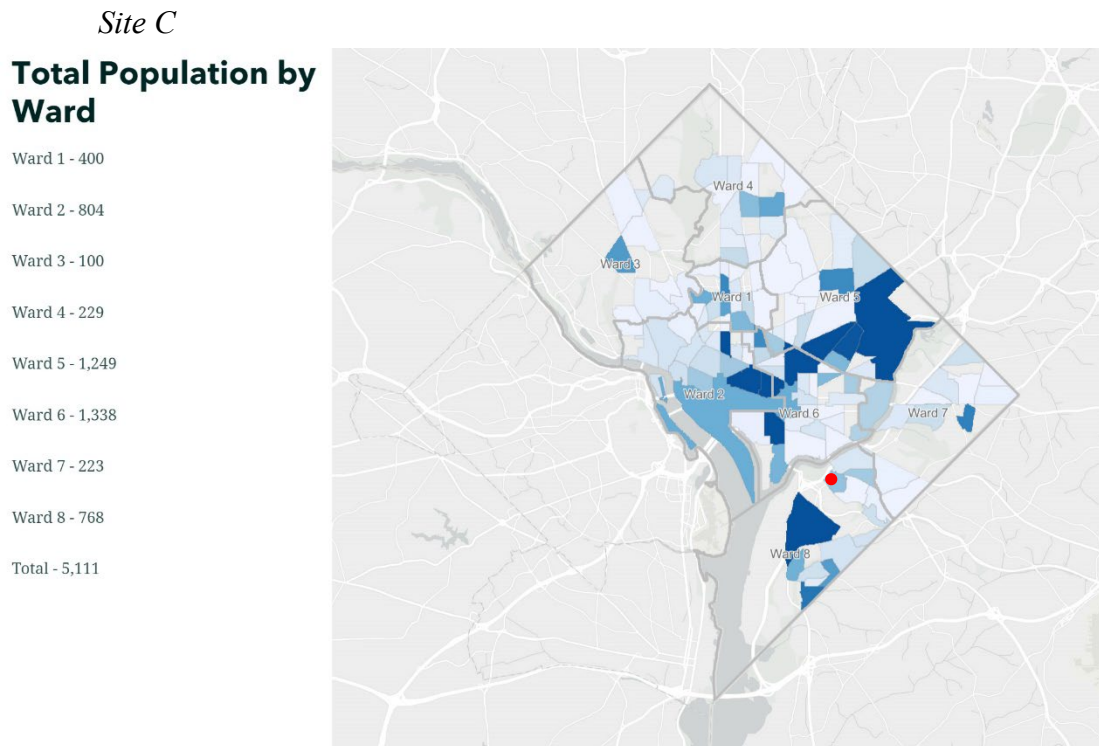


Figure 30: PIT Data and Site C Location.

The second highest site scored on the matrix is 1913 Martin Luther King JR Ave in DC. This area has a high homeless population throughout all of DC based on the PIT data provided above in figure 18 and is known for being an unsafe area. This site is in

the Anacostia Historic District, the eminent surrounding buildings on Martin Luther King JR Ave are newly renovated/ restored and the area is filled with a younger population. It is apparent that the city is trying to develop the area to decrease crime, however the side streets and neighboring blocks are where the crime takes place.

Next to the site a new office building has just been built for DHCD, the Department of Housing and Community Development. The new building took over a vacant lot and is now providing the surrounding struggling community with resources related to housing. Shown below is the vacant proposed site and the newly developed DHCD building.



Figure 31: Site Visit Images of Proposed Site and New DHCD Building.

Preferred Site and Analysis- 618 P St NW, DC

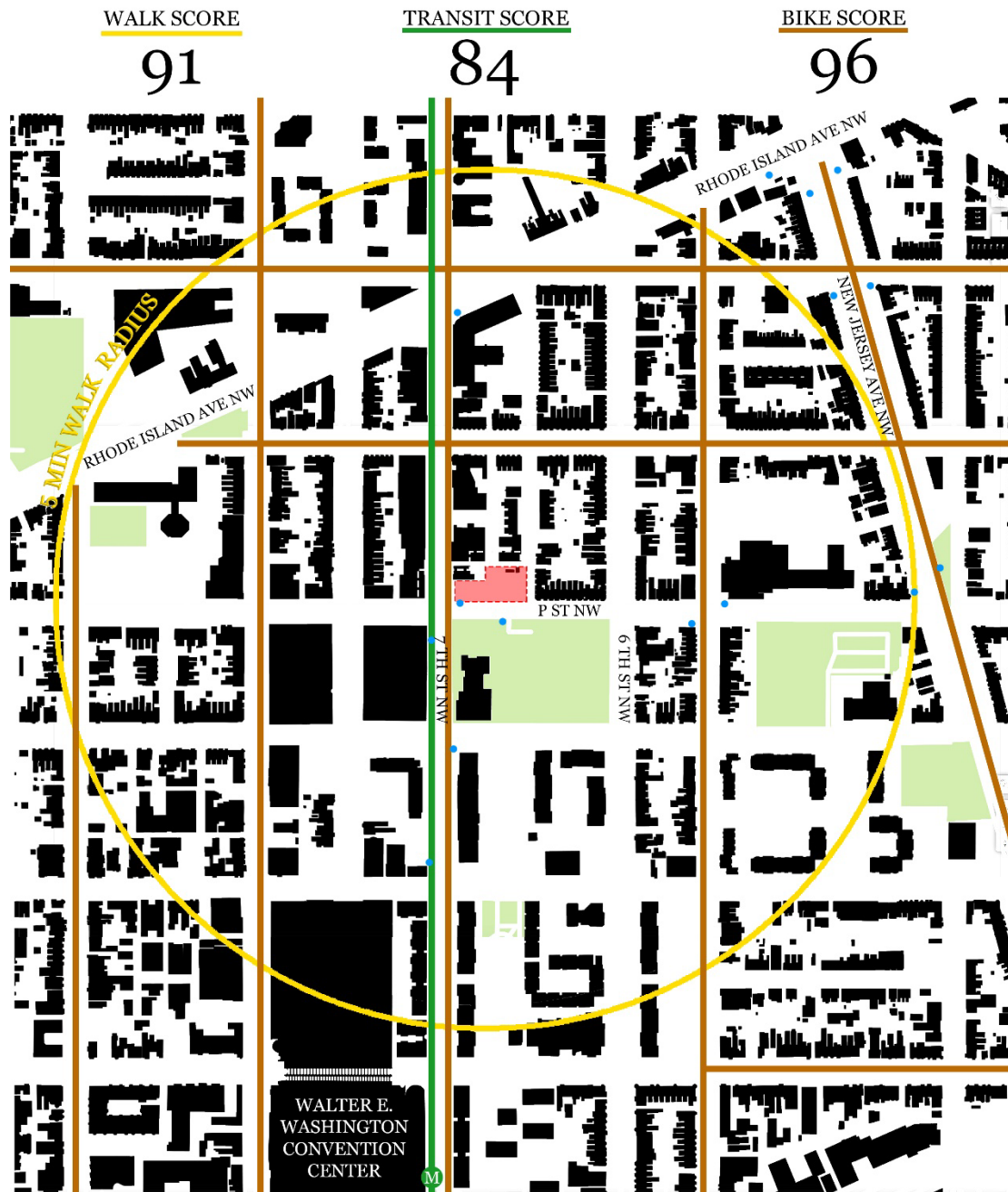


Figure 32: Site Analysis - 618 P St NW, DC.

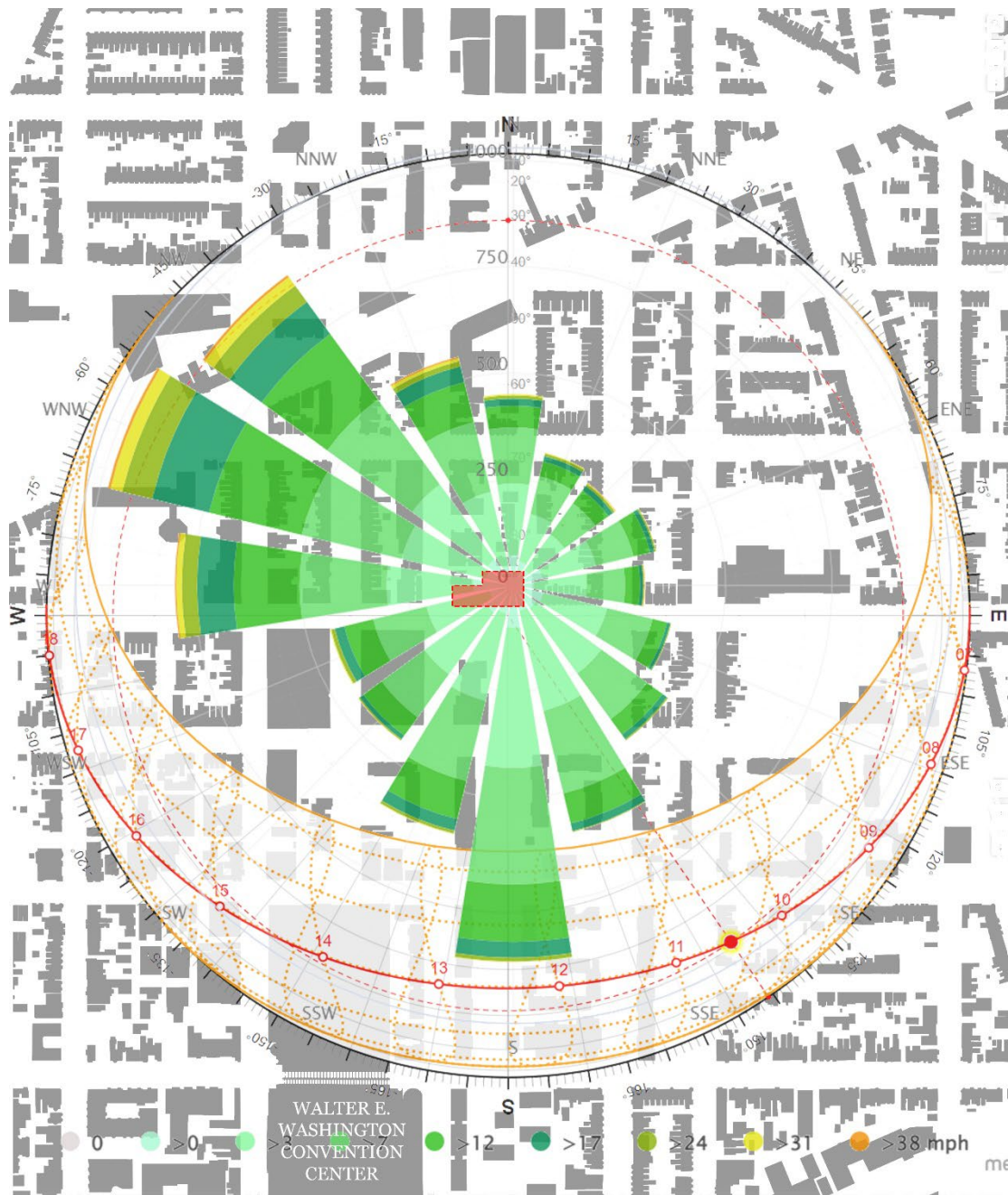


Figure 33: Site Analysis, Solar and Wind Rose - 618 P St NW, DC.

Bibliography

- “Basic Facts About Homelessness: New York City - Coalition For The Homeless.” Accessed March 14, 2024. <https://www.coalitionforthehomeless.org/basic-facts-about-homelessness-new-york-city/>.
- Bloom, Alan. “Toward a History of Homelessness.” Accessed March 7, 2024. <https://doi.org/10.1177/0096144205276990>.
- City of Philadelphia. “Visit a City-Funded Homeless Intake Center | Services,” February 16, 2024. <https://www.phila.gov/services/property-lots-housing/buy-sell-or-rent-a-property/find-housing/find-emergency-housing/>.
- Coventry, Kate. “Bringing It All Home: How DC Can Become the First Major City to End Chronic Homelessness and Provide Higher-Quality Services.” *DC Fiscal Policy Institute* (blog), April 4, 2023. <https://www.dcfpi.org/all/bringing-it-all-home-how-dc-can-become-the-first-major-city-to-end-chronic-homelessness-and-provide-higher-quality-services/>.
- Cunningham Quill. “The Terrell.” Accessed May 15, 2024. <https://www.cunninghamquill.com/terrell>.
- “Day Services Centers | Dhs.” Accessed March 28, 2024. <https://dhs.dc.gov/page/day-services-centers>.
- DCist. “District Completes Ward 1 Homeless Shelter, Capping A Years-Long Effort To Build Smaller Family Shelters.” Accessed April 8, 2024. <https://dcist.com/story/21/02/03/ward-1-homeless-shelter-complete-replacing-dc-general/>.
- DCist. “Homelessness In D.C. Increases For The First Time In Years.” Accessed May 15, 2024. <https://dcist.com/story/23/05/05/dc-homelessness-increase-2023-pit-count/>.
- DLR Group. “District of Columbia’s Ward 8 Celebrates the Triumph.” Accessed April 8, 2024. <https://www.dlrgroup.com/firm-news/triumph-family-housing-opening/>.
- “Ending Homelessness in the District of Columbia | Dmhhs.” Accessed May 15, 2024. <https://dmhhs.dc.gov/homewarddc>.
- “Facts on Homelessness | Project HOME,” February 9, 2022. <https://www.projecthome.org/homelessness-facts>.
- “Family Permanent Supportive Housing – Everyone Home DC.” Accessed March 28, 2024. <https://everyonehomedc.org/programs/family-permanent-supportive-housing/>.
- Fuller, Jacob. “Guest Commentary: Is Our Homeless Population Count Correct?” *The Philadelphia Citizen*, February 6, 2024. <https://thephiladelphiacitizen.org/guest-commentary-is-philly-undercounting-our-homeless-population/>.
- “History of Homelessness In NYC – Homelessness & Affordable Housing NYC.” Accessed March 3, 2024. <https://eportfolios.macaulay.cuny.edu/affordablehousingnyc/homelessness-in-nyc/>.
- “History of Homelessness In NYC – Homelessness & Affordable Housing NYC.” Accessed May 14, 2024. <https://eportfolios.macaulay.cuny.edu/affordablehousingnyc/homelessness-in-nyc/>.
- Housing Up. “Developing Affordable Housing.” Accessed March 28, 2024. <https://housingup.org/ending-homelessness/developing-affordable-housing/>.
- Housing Up. “Developing Affordable Housing.” Accessed May 15, 2024. <https://housingup.org/ending-homelessness/developing-affordable-housing/>.

- “How to Access Shelter | Dhs.” Accessed May 13, 2024. <https://dhs.dc.gov/page/how-access-shelter>.
- “HUD Archives: HUD RELEASES 2019 ANNUAL HOMELESS ASSESSMENT REPORT.” Accessed May 14, 2024. <https://archives.hud.gov/news/2020/pr20-003.cfm>.
- “Ionia R. Whipper Home Historical Marker.” Accessed May 15, 2024. <https://www.hmdb.org/m.asp?m=187434>.
- Marin, Max. “Inside Philly’s 40-Year War on Homeless Encampments.” Billy Penn at WHYY, February 23, 2021. <http://billypenn.com/2021/02/23/philadelphia-homeless-encampment-parkway-chris-sproval-mayor-goode-kenney/>.
- Maryland Center for History and Culture. “Baltimore’s Pursuit of Fair Housing: A Brief History,” April 28, 2021. <https://www.mdhistory.org/baltimores-pursuit-of-fair-housing-a-brief-history/>.
- Maryland Center for History and Culture. “Lafayette Courts Perspective.” Accessed May 15, 2024. <https://www.mdhistory.org/resources/lafayette-courts-perspective/>.
- Mayor’s Office of Homeless Services. “Action Plan on Homelessness,” November 5, 2019. <https://homeless.baltimorecity.gov/action-plan-homelessness>.
- Murakami, Kery. “A Shower at D.C.’s New Day Services Center Leaves One Homeless Man Feeling More than Clean.” *Washington Post*, April 16, 2019. <https://www.washingtonpost.com/express/2019/04/15/shower-dcs-new-day-services-center-leaves-one-homeless-man-feeling-more-than-clean/>.
- NAC Architecture. “The Hilda L. Solis Care First Village.” Accessed March 3, 2024. <https://www.nacarchitecture.com/portfolio/hildalsoliscarefirst>.
- National Academies of Sciences, Engineering, Health and Medicine Division, Board on Population Health and Public Health Practice, Policy and Global Affairs, Science and Technology for Sustainability Program, and Committee on an Evaluation of Permanent Supportive Housing Programs for Homeless Individuals. “The History of Homelessness in the United States.” In *Permanent Supportive Housing: Evaluating the Evidence for Improving Health Outcomes Among People Experiencing Chronic Homelessness*. National Academies Press (US), 2018. <https://www.ncbi.nlm.nih.gov/books/NBK519584/>.
- “Permanent Supportive Housing for Individuals and Families (Project Based, Tenant Based, Local Veterans) | Dhs.” Accessed May 10, 2024. <https://dhs.dc.gov/page/permanent-supportive-housing-individuals-and-families-project-based-tenant-based-local-veterans>.
- Sargent, Kay. “TRAUMA-INFORMED DESIGN FOR HOMELESS POPULATIONS,” n.d.
- “Services for Individuals Experiencing Homelessness | Dhs.” Accessed March 14, 2024. <https://dhs.dc.gov/page/services-individuals-experiencing-homelessness>.
- Street Sense Media. “The History of Homelessness in Washington, DC: Part I, 1975-1985.” Accessed March 3, 2024. <https://streetsensemedia.org/article/the-history-of-homelessness-in-washington-dc-part-i-1975-1985/>.
- Street Sense Media. “The History of Homelessness in Washington, D.C.: Part III, 1994-Present.” Accessed May 15, 2024. <https://streetsensemedia.org/article/the-history-of-homelessness-in-washington-d-c-part-iii-1994-present/>.

StudioTwentySevenArchitecture -. “The Aya - StudioTwentySevenArchitecture,” January 31, 2022. <https://www.studio27arch.com/project/850-delaware-ave/>.

“Targeted Affordable Housing for Individuals and Families | Dhs.” Accessed March 28, 2024. <https://dhs.dc.gov/page/targeted-affordable-housing-individuals-and-families>.

“The Baltimore ‘Redlining’ Map: Ranking Neighborhoods – The Sheridan Libraries & University Museums Blog,” September 19, 2017. <https://blogs.library.jhu.edu/2017/09/the-baltimore-redlining-map-ranking-neighborhoods/>.

The Community Partnership. “Homelessness In DC.” Accessed April 9, 2024. <https://community-partnership.org/homelessness-in-dc/>.

The Community Partnership. “Homelessness In DC.” Accessed May 15, 2024. <https://community-partnership.org/homelessness-in-dc/>.

“Washington, D.C. Builds Transitional Housing in the Southwest Waterfront Neighborhood | HUD USER.” Accessed April 4, 2024. <https://www.huduser.gov/portal/casestudies/study-120523.html>.