

A PROTOTYPE PATTERN LANGUAGE FOR REFUGEE  
HOUSING IN PORTLAND

by

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Relocating refugees in an unfamiliar environment in the United States without explicitly acknowledging their cultural and emotional needs hinders their ability to adapt to their new communities, neighborhoods and homes. One method to address the disconnect between resettled refugees and their new environment is to develop a list of architectural guidelines, or *pattern language*, that can be utilized as a tool to promote integration and inclusion for resettled refugees, especially in Portland, Oregon where the population of refugee families is steadily growing due to the Syrian refugee crisis.

Developing a prototype pattern language is an effort to create a research-based resource that can be utilized by designers, community organizations and government entities to gain a better understanding of how resettled refugees are adjusting to life in the United States. Using a collection of essays, interviews, statistics and images from *Making Heimat: Germany, Arrival Country* by Peter Cachola Schmal, Oliver Esler, and Anna Schuermann with supplemental sources on design theory and case studies on refugee housing projects, I developed an initial list of potential patterns that addressed four architectural scales: the community, the neighborhood, the exterior of the dwelling and the interior of the dwelling . Subsequently, the hypothetical pattern language,

informed by the existing literature and case studies, guided a semi-structured interview process with five Syrian refugee families residing in Portland and Beaverton.

The interview process confirmed that the living situations of refugee families living in Portland and Beaverton did not align with their values and needs as a vulnerable population. Correspondingly, the finalized prototype pattern language concisely summarized the primary architectural issues that resettled refugees were confronted with in their daily lives and proposed a direct solution to the problem based on the existing literature, case studies and the information gathered from the interview participants. The initial research on refugee housing in Portland has potential to inform future studies that utilize architectural design theory to recognize the emotional and cultural implications of the resettlement process for refugees in the United States.

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## **Acronyms**

<b>ADA</b>	Americans with Disabilities Act
<b>DHS</b>	Oregon Department of Human Services
<b>DMV</b>	Department of Motor Vehicles
<b>HUD</b>	U.S. Department of Housing and Urban Development
<b>IRCO</b>	Immigrant and Refugee Community of Oregon
<b>NGOs</b>	Non-governmental organizations
<b>PRSG</b>	Portland Refugee Support Group
<b>RCSP</b>	Refugee Case Services Project
<b>VOLAG</b>	Voluntary Agencies

## Introduction

As one of the largest exoduses of people in modern history, the Syrian refugee crisis has created a growing need for refugee housing in the United States. The urgent efforts to provide housing to incoming refugees has created a top-down approach where individuals or families are located and housed by governmental or non-governmental organizations (NGOs) based on convenience and economy rather than the cultural and emotional needs of the refugees themselves. At the same time, the typical dwelling in the United States is designed to appeal to the functional needs and stylistic preferences of American consumers rather than asylum seekers who are politically, socially and economically vulnerable. One way to explicitly ascertain and communicate the needs of resettled refugees is to construct a list of architectural guidelines, or a *pattern language*, that encourages a more responsive approach toward the resettlement process in Portland, Oregon. A pattern language is a framework for identifying essential design problems and proposing concise solutions to these problems, which architect and design theorist, Christopher Alexander, outlines in his text, *A Pattern Language: Towns, Buildings, Construction*.

Creating a prototype pattern language is an effort to recognize the experiences of refugees living in Portland and synthesize their experiences into guidelines that can be utilized by designers, community organizations and government entities to improve refugee housing. The refugee housing crisis in the United States poses long term social, political and economic challenges that can be partly addressed by architectural design theory. Creative design thinking integrates both abstract and concrete ideas, which have potential to generate reliable approaches to promote integration and inclusion for

resettled refugees. Introducing new ideas that could improve refugee housing using Alexander's fundamental pattern language method will help ensure that these insights are legible and can be accessed by a broader audience of people.

## **A Pattern Language**

A pattern language is Christopher Alexander's method for summarizing beneficial architectural practices or approaches towards design problems. In the text, *A Pattern Language: Towns, Buildings, Construction*, he and his colleagues identify design-oriented problems in simplified terms and evaluates the underlying patterns of reoccurring issues to determine an ideal solution to the problem. As an example, the pattern, "Small Public Squares," affirms that towns must have an appropriately sized central outdoor space that acts as a public room and fosters activity. Alexander describes the design problem in more detail: "A town needs public squares; they are the largest, most public rooms, that the town has. But when they are too large, they look and feel deserted."<sup>1</sup> He illustrates this idea by contrasting images of a small, lively public square and a large, deserted public square in Lima. His proposed solution is to "make a public square much smaller than you would first imagine; usually no more than 45 to 60 feet across, never more than 70 feet across. This applies only to its width in the short direction. In the long direction it can certainly be longer."<sup>2</sup>

The pattern language's ability to succinctly identify the design problem and describe the basis of the solution to the problem in an abstract way makes it legible to a diverse group of people and applicable to a variety of locations. Although the

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<sup>1</sup> Christopher Alexander, Sara Ishikawa, and Murray Silverstein, *A Pattern Language: Towns, Buildings, Construction* (New York: Oxford University Press, 1977), 311.

<sup>2</sup> Alexander, Ishikawa, and Silverstein, *A Pattern Language: Towns, Buildings, Construction*, 313.

recommended solution for “Small Public Squares” is straightforward, it can be interpreted in an unlimited number of ways. Alexander emphasizes, “Each pattern describes a problem which occurs over and over again in our environment, and then describes the core of the solution to that problem, in such a way that you can use this solution a million times over, without ever doing it in the same way.”<sup>3</sup> Therefore, the pattern language is both replicable and adaptable depending on the specific preferences of users groups and local conditions.

Establishing Portland, Oregon as the specific context for the development of the pattern language is crucial. Another one of Alexander’s text, *Houses Generated by Patterns*, discusses the design for 1,500 houses in Peru, funded by the United Nations and the Banco de la Vivienda of Peru, using the pattern language method to develop housing to accommodate the needs of a specific Peruvian community in Lima. The text highlights the interconnectivity of the context, solution and problem for the pattern language developed for the Peruvian housing:

Each pattern has three very clearly defined sections: context, solution, problem. The context defines a set of conditions. The problem defines a complex of needs which always occurs in the given context. The solution defines the spatial arrangement of parts which must be present in the given context in order to solve the problem.<sup>4</sup>

Correspondingly, the patterns outlined in the prototype pattern language for refugee housing are specific to Portland and the suburban areas surrounding it.

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<sup>3</sup> Christopher Alexander, Sara Ishikawa, and Murray Silverstein, *A Pattern Language: Towns, Buildings, Construction* (New York: Oxford University Press, 1977), x.

<sup>4</sup> Christopher Alexander, *Houses Generated By Patterns* (Berkeley, CA: Center for Environmental Structure, 1969), 53.

## **The Context of Portland**

The community of resettled refugees in Portland and the suburbs surrounding it is growing. While the city's liberal politics, investment in public transit, environmental consciousness and economic opportunities make it seem like an ideal place for resettling refugees, its current housing crisis with increasing rents and lack of affordable housing make it almost unattainable for refugees. An article from Willamette Week, "I Moved to the Edge of Portland to Help Refugees. But They Can't Afford to Live Here Anymore," follows the stories of refugees living at Barberry Village at the far western end of Gresham. The article explains, "Refugees are given eight months of financial assistance by the government to get on their feet, and they have not had their benefits raised at a rate that lets their income keep pace with the rent hikes."<sup>5</sup> Being forced to relocate every time rents are increased disrupts refugees' abilities to connect to their surrounding communities and resources.

The article also follows the story of Mehrafzun and her family's move from Gresham to Tigard, Oregon: "But [Mehrafzun's] husband, Abdul, has to commute over three hours a day to get to his job at a food-processing plant. Their new apartment is far from services like the Immigrant and Refugee Community Organization."<sup>6</sup> The housing crisis in Portland creates spatial disparities that distance resettled refugee families from essential resources, including employment opportunities and public services. Given the gravity of the housing crisis in Portland, the scope of the pattern language extends

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<sup>5</sup> "I Moved to the Edge of Portland to Help Refugees. But They Can't Afford to Live Here Anymore," Willamette Week, <http://www.wweek.com/news/2016/09/13/i-moved-to-the-edge-of-portland-to-help-refugees-but-they-cant-afford-to-live-here-anymore/> (Accessed June 1, 2017).

<sup>6</sup> "I Moved to the Edge of Portland to Help Refugees."

include various suburbs outside of the city center. The complexity of Portland and the ensuing housing crisis make it a challenging focus for evaluating refugee housing.

## **Methodology**

The patterns developed for the prototype pattern language are based on an extensive literature review and interviews with members of refugee community in Portland and Beaverton. The existing literature consists of texts and case studies on refugee housing efforts. The various sources explore different examples of how architecture has influenced the resettlement process for refugee families adjusting to life in another country. Specifically, *Making Heimat: Germany, Arrival Country* by Peter Cachola Schmal, Oliver Esler, and Anna Schuermann, is an invaluable source of new design approaches that address the extensive influx of refugees in Germany in 2015.

The information accumulated from the existing literature review was then used to create a preliminary, intuitive list of patterns for refugee housing. The initial list of potential patterns served as a hypothesis that was tested throughout the interview process with five refugee families. Participants recruited through the Portland Refugee Support Group (PRSG), a non-profit organization founded in 2015 to help refugees and immigrant families acclimate to life in the United States, engaged in semi-structured interviews and discussed a variety of topics ranging from the broader Portland community to the individual dwelling unit.

The objective of the interview process was to determine how the refugee families were interacting with their new environments in Portland and what their ideal living situation may be like based on their past experiences. The preliminary pattern language generated from the existing literature review served as a structured guide to



achieve the overall objective. The information from the literature review and the interview process was analyzed and synthesized to create one cohesive pattern language using Alexander's format.

## Applications of Existing Literature

The concept of the *arrival city*, first coined in Doug Saunders' *Arrival City: How the Largest Migration in History is Reshaping Our World* to describe the how immigrating rural villagers transition to more established cities, is now being applied to refugee housing in Germany in the text, *Making Heimat: Germany, Arrival Country* by Peter Cachola Schmal, Oliver Esler, and Anna Schuermann. Saunders originally describes the *arrival city* as a place that possesses the "political institutions, business relationships, social networks and transactions [that] are all footholds intended to give new village arrivals a purchase, however, fragile, on the edge of the larger society."<sup>7</sup> In other words, the *arrival city* acts as a transitional space that provides immigrants and migrants with social, political and economic networks that allow them to advance in the established city. Schmal, Esler, and Schuermann modify Saunders' term by calling Germany an "arrival country" and use this broader idea to respond to the question: "How can people who have left their familiar environment settle and be 'at home'?"<sup>8</sup> The collection of essays, interviews, statistics and images contained in *Making Heimat* serves as a useful lens for examining Portland and its ability to integrate resettled refugees.

The three texts, *Houses Generated by Patterns* by Christopher Alexander, *The Death and Life of Great American Cities* by Jane Jacobs, *Living Over the Store: Architecture and Local Urban Life* by Howard Davis, and "Privacy, modesty, hospitality and the design of Muslim homes: A literature review" by Zulkeplee Othman,

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<sup>7</sup> Doug Saunders, *Arrival City: How the Largest Migration in History is Reshaping Our World* (New York: Pantheon Books, 2010), 11.

<sup>8</sup> Peter Cachola Schmal, Oliver Esler, and Anna Schuermann, *Making Heimat: Germany, Arrival Country* (Ostfildern: Hatje Cantz, 2016), 12.

Rosemary Aird and Laurie Buys address additional beneficial urban planning or design strategies that promote more responsive communities, neighborhoods and dwellings.

*Houses Generated by Patterns* is highly contextual and recommends a pattern language for 1,500 houses in Lima, Peru, funded by the United Nations and the Banco de la Vivienda of Peru. Although the intended audience of the pattern language is Peruvian architects and builders, the problems and corresponding solutions for housing in Lima have universal applications, especially in regards to degrees of publicness, outdoor spaces, privacy gradients, the relationships between rooms, etc. The specificity of the pattern language for Peruvian housing serves as supplemental material that exemplifies topics introduced by other sources.

Likewise, *The Death and Life of Great American Cities* advocates a community approach towards urban planning that prioritizes and supports the vitality of city neighborhoods. Considering Jacobs' lack of professional training in city planning, the universal planning principles that she recommends are based on her personal observations as a resident living in Greenwich Village, New York. She identifies defining characteristics of vital neighborhoods, especially in regards to the city street.

*Living Over the Store: Architecture and Local Urban Life* discusses the perpetuation of the shop/house typology historically and globally. As a ubiquitous type of building, the shop/house and its political, social and economic benefits can be applied to the context of Portland. Finally, "Privacy, modesty, hospitality and the design of Muslim homes: A literature review" establishes the influence of Islamic cultural practices on the design of Muslim homes. Considering the growing population of admitted Syrian refugees in the

United States, it is essential to examine the role of cultural factors within the domestic spaces of the home.

Case studies on hypothetical and newly constructed housing projects for asylum seekers also consider refugees' experiences and establishes how the design community has been responding the growing need for refugee housing. One example is the winning entry for the 2015 "From Border to Home" architectural competition by Society Lab, an architecture practice based in Venice, Italy. The project is a hypothetical design that proposes to locate refugees in vacant houses in Helsinki. The Royal Café, owned by German-Palestinian, Omallah ali Maher, and operated by Syrian refugee, Mr. Al Babi, is another example that demonstrates how resettled refugees benefit from small business communities. Additionally, an interview with Ahmed, a Syrian refugee relocated in Essen, Germany, conducted by University of Oregon Professor, Howard Davis, reveals how the interior of the home influences how refugees interact with their new environments. Finally, the Container Villages in Bremen, Germany by Architekten BDA Feldschnieders + Kisters addresses issues of privacy within the home as a newly developed temporary housing project.

Examining the existing literature and case studies relating to refugee housing has provided the basis for developing an initial pattern language. The initial list of potential patterns serves as a hypothesis that can be tested throughout the interview process. The identified architectural issues can be divided into four categories: the broader community, the surrounding neighborhood, the exterior of the dwelling and the interior of the dwelling. "Community" refers to the greater Portland area and the suburbs surrounding it while the "neighborhood" scale is more localized. The "exterior

of the dwelling” refers to the house and the areas connecting it to the neighborhood, such as outdoor areas, the street and any flexible spaces on the ground floor that could be open to the public. The “interior of the dwelling” focuses on the organization of the house itself including entry spaces, bathrooms, places to receive guests and rooms that are strictly private. Using the four categories as a baseline pattern language or hypothesis will determine how refugees are currently interacting with their new environments in Portland and how their living situation could be improved based on their past experiences for the finalized pattern language.

### **Preliminary Pattern Language**

#### Community

*High Urban Density*

*Public Transportation*

*Wide Distribution or Separation*

*Ethnic Enclaves/ Ethnically Homogenous Districts*

#### Neighborhood

*Public Support*

*Affordable*

*Close to Businesses (Mixed Use/Flexible Zoning)*

*Good Schools*

#### Exterior

*Accompanying Outdoor Area*

*Connection to the Street*

*Flexible Ground Floor/Shop House*

## Interior

*Central Hall*

*Gradient of Public and Private Spaces*

*Formal Guest Room / Kitchen Relationship*

*Functional Bathroom/Toilet Placement*

*Gendered Privacy*

*Olfactory Privacy*

*Acoustical Privacy*

## Community

### *High Urban Density*

Planners and designers use the term, *urban density*, to refer to the proximity of people inhabiting a specific area within a city. In “Arriving on the Edge: Migrant Districts and the Architecture of Inclusion” from *Making Heimat: Germany, Arrival Country*, Doug Saunders argues that increasing urban density, or proximity among occupants living in cities, promotes comfort and inclusion. According to Saunders, “By increasing the flow of pedestrians throughout the neighborhood, density populates public spaces and creates an environment in which newcomers—particularly women—feel comfortable outside their homes.”<sup>9</sup> The atmosphere Saunders describes with public spaces and sidewalks teeming with people is one that encourages activity and opportunities for interaction. If the same community spaces or sidewalks were deserted and avoided by its residents, newcomers would feel more isolated and less inclined to

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<sup>9</sup> Peter Cachola Schmal, Oliver Elser, and Anna Scheuermann, *Making Heimat: Germany, Arrival Country* (Ostfildern: Hatje Cantz, 2016), 24.

engage with their surroundings. He further elaborates, “Increased physical proximity in a secure environment encourages clusters of commercial activity and social vitality to emerge, attracting not only more newcomers, but established citizens from surrounding communities as well.”<sup>10</sup> Connecting newcomers to existing residents through commercial and social activity is essential, especially for resettled refugees. Established citizens could serve as resources for refugees to learn about the culture of the place or network with community members in the area. Therefore, Saunders’ argument for increasing urban density is an important community aspect that could improve resettled refugees’ experiences adjusting to a new place.

### *Public Transportation*

Although the close proximity and varying placement of people in an urban setting has potential to provide newcomers with a variety of social, economic and political opportunities, it is essential that these newcomers have access to these public amenities in the first place. Considering the article from Willamette Week, “I Moved to the Edge of Portland to Help Refugees. But They Can’t Afford to Live Here Anymore,” resettled refugees are often located in areas that are significantly less densely populated than the center of Portland. While downtown Portland has a Walk Score® of 100/100 with a Transit Score of 95/100, suburban areas like Gresham, with a Walk Score® of 43/100 and a Transit Score of 39/100, and Beaverton, with a Walk Score® of 48/100 and a Transit Score of 37/100, require a vehicle to access daily amenities.<sup>11</sup> The transportation limitations in areas outside of the immediate city make it difficult for

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<sup>10</sup> Schmal, Elser, and Scheuermann, *Making Heimat: Germany, Arrival Country*, 24.

<sup>11</sup> “Walk Score,” Walk Score, <https://www.walkscore.com/> (Accessed December 26, 2017).

newcomers, especially refugees, to interact with the broader community in a fluid and feasible way. Determining how accessible public transportation is for resettled refugees without the funds for a vehicle is another community element that needs to be considered.

### *Wide Distribution or Separation*

After refugees are approved for asylum in the United States, the government assigns each case to one of nine NGOs. The assigned organization then determines the location for resettlement and helps the refugee(s) adjust to life in the United States. During a conversation with Michelle Welton from Catholic Charities, she explained that current resettlement policies require agencies to distribute refugees across the Portland area because it is illegal to concentrate them in a single neighborhood or community. The author of “The Arrival City and the Integration of Migrants,” Jürgen Friedrichs, suggests that diffusing the location of refugees promotes integration in Germany: “[T]here are also gains to be made if the new minorities are widely distributed. In this case, they will have little contact with their compatriots, but inevitably more interactions with Germans—which should facilitate integration.”<sup>12</sup> As mentioned with the concept of urban density, Friedrichs supports the idea that exposing newcomers to existing residents is beneficial.

Society Lab, an architecture practice based in Venice, Italy, submitted a winning entry to the “From Border to Home” architectural competition in 2015 that proposed a platform for connecting asylum seekers to vacant houses in Helsinki. One of the

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<sup>12</sup>Peter Cachola Schmal, Oliver Elser, and Anna Scheuermann, *Making Heimat: Germany, Arrival Country* (Ostfildern: Hatje Cantz, 2016), 82.



arguments behind their approach was that the varied locations of the vacant houses would connect refugees to the local residents and culture within a high density environment. The firm claims, “Living for one year in these homes around Helsinki, asylum seekers have the opportunity to meet neighbors and become acquainted with the local language and culture.”<sup>13</sup> Accordingly, the case study by Society Lab in Helsinki supports Friedrichs argument for the wide distribution of resettled refugees. In “Immigrant Neighborhoods: An Essential Step Towards Integration,” Walter Siebel discusses the consequences associated with the close proximity of refugees: “If an ethnic group’s spatial segregation is then overlaid with discrimination, unemployment, and deprivation of political rights, it is hardly surprising to find people reacting by withdrawing into their own narrow, insular worlds.”<sup>14</sup> The less refugees interact with the new community, culture and environment around them, the longer it will take for them to be integrated into American society. As a result, it is essential to establish whether or not the wide distribution or separation of resettled refugees promotes integration and inclusion.

### *Ethnic Enclaves / Ethnically Homogenous Districts*

However, locating refugees in close proximity to each other also has its advantages. Saunders explains, “Research has shown that refugees who are economically and educationally successful tend to be those who have resettled from their original settlement city into established urban immigrant enclaves, thus becoming

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<sup>13</sup> Isabella Baranyk, “7 Architectural Solutions for Asylum Seekers Shown by the Finnish Pavilion at the 2016 Venice Biennale,” ArchDaily, <https://www.archdaily.com/867339/7-architectural-solutions-for-asylum-seekers-shown-by-the-finnish-pavilion-at-the-2016-venice-biennale/> (Accessed December 20, 2017).

<sup>14</sup> Peter Cachola Schmal, Oliver Elser, and Anna Scheuermann, *Making Heimat: Germany, Arrival Country* (Ostfildern: Hatje Cantz, 2016), 222.

integrated economic migrants rather than asylum cases sponsored by the state.”<sup>15</sup> The fact that refugees would not be reliant on the government for support because they have already gained more sustainable footholds in the United States economy is crucial. It is also important to note that being surrounded by existing residents would not offer the same kind of support as being surrounded by more established immigrants or refugees. Despite his argument for wide distribution, Friedrichs reiterates this idea: “Typically, migrants move to major cities for two reasons: firstly, because they assume they will have greater opportunities there, and secondly, because this is where many of their compatriots live—i.e. members of their own minority—from whom they expect supports.”<sup>16</sup> Networking within the immigrant or refugee community in a certain area may enable newcomers to acclimate to their new environments at a faster rate than if they were integrated with local residents.

Siebel also acknowledges the benefits of close proximity: “By sorting different groups into different areas, the segregated city transmutes social distance into spatial distance, thereby defusing the potential for conflict.”<sup>17</sup> He is implying that resettled refugees may experience less conflict in a community of refugees than in a community of residents that are dissimilar to them. Allowing close concentrations of refugees may provide the appropriate economic and social networks for refugees to be self-sufficient and prosperous.

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<sup>15</sup> Schmal, Elser, and Scheuermann, *Making Heimat: Germany, Arrival Country*, 26.

<sup>16</sup> Peter Cachola Schmal, Oliver Elser, and Anna Scheuermann, *Making Heimat: Germany, Arrival Country* (Ostfildern: Hatje Cantz, 2016), 76.

<sup>17</sup> Schmal, Elser, and Scheuermann, *Making Heimat: Germany, Arrival Country*, 220.

## Neighborhood

### *Public Support*

Although the United States government and NGOs provide support during the initial resettlement process, having access to other kinds of public support could further benefit refugees. In “Work as an Engine of Integration,” Amber Sayah describes the Welcome Center in downtown Stuttgart, Germany that provides “direct contact between medium-size companies and newcomers looking for work” through the employment agency’s job fair.<sup>18</sup> Connecting newly resettled refugees with employment and networking opportunities is the first step towards future self-sufficiency. According to Sayah, the integration commissioner in Stuttgart also emphasizes the need for “targeted assistance and support of immigrants via language courses, education sponsors, training mentors, sports clubs and cultural associations, and private and public foundations.”<sup>19</sup> Therefore, providing social and cultural services in addition to economic and financial support has potential to ensure that resettled refugees have the skills and resources that they need to be successful.

In the state of Oregon, the Oregon Department of Human Services (DHS) and Voluntary Agencies (VOLAG), including Catholic Charities, Lutheran Community Services Northwest and Sponsors Organized to Assist Refugees, have implemented a public/private partnership called the Refugee Case Services Project (RCSP) to provide

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<sup>18</sup> Schmal, Elser, and Scheuermann, *Making Heimat: Germany, Arrival Country*, 110.

<sup>19</sup> Peter Cachola Schmal, Oliver Elser, and Anna Scheuermann, *Making Heimat: Germany, Arrival Country* (Ostfildern: Hatje Cantz, 2016), 112.

social and financial services to refugees.<sup>20</sup> The RCSP services include case services and cash assistance for eight months after arrival in the United States as well as case management services. The case management services include “helping refugees obtain a Social Security card and DMV identification, opening a bank account, paying rent and utility bills, enrolling children in school and referring them for a health screening, and assistance with other emergent needs.”<sup>21</sup> The PRSG is in a partnership with Catholic Charities and the Immigrant and Refugee Community of Oregon (IRCO). The organization focuses on adult and child education, community education about refugees, psycho-social support and life skills training.<sup>22</sup> Establishing the impact of different social and economic public support in the daily lives of resettled refugees is imperative, especially since the five interview participants are connected to the PRSG.

### *Affordability*

As newcomers with limited resources, it is crucial to alleviate increased financial pressures on resettled refugees by providing them with access to affordable housing. According to an interview with Doug Saunders and Stephan Lanz, “Three factors make an Arrival City: first, low-cost housing; second, proximity to jobs and/things; third, networks of people from existing cultures and backgrounds that can help you out.”<sup>23</sup> The low cost of housing is an inseparable characteristic of the *arrival city* that allows newcomers to gain footholds in the economy of established cities. If the

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<sup>20</sup> “Refugee Program,” State of Oregon, accessed March 22, 2018, <http://www.oregon.gov/DHS/ASSISTANCE/REFUGEE/Pages/index.aspx>.

<sup>21</sup> “Refugee Program.”

<sup>22</sup> “What We Do,” Portland Refugee Support Group, accessed March 22, 2018, <http://www.pdxrsg.org/what-we-do.html>.

<sup>23</sup> Peter Cachola Schmal, Oliver Elser, and Anna Scheuermann, *Making Heimat: Germany, Arrival Country* (Ostfildern: Hatje Cantz, 2016), 42.

majority of an individual's income is dedicated to paying the cost of rent, it is even more challenging for them to afford daily necessities let alone accrue financial assets for the future.

As discussed in “The Context of Portland” section of the Introduction, the greater Portland area is currently experiencing a housing crisis in which rents are increasing and the amount of available affordable housing options is decreasing. Stefan Rettich, the author of “Regulate. Reduce. Accelerate,” explains, “There is a limit to the amount of centrally located, low-cost housing that can be built, particularly when the housing market is tight. All this points to the need to develop new large neighborhoods on local authority-owned land, on the periphery of built-up areas.”<sup>24</sup> Consequently, suburban locations outside of Portland, like Gresham, Beaverton, Tigard, etc., are more attainable options for refugees to relocate in. Despite the affordability of housing in areas surrounding the city center, the urban density and public transportation networks are less extensive in these locations. Given the tradeoffs of living in suburban neighborhoods, it is necessary to determine the extent of rent-related financial pressures for refugees and assess whether or not affordable housing could be a constructive solution.

#### *Close to Businesses (Mixed Use/Flexible Zoning)*

Historically, the prevailing planning and zoning approaches across the United States have favored the separation between residential and commercial uses. Single-use zoning has resulted in *urban sprawl*, which is characterized by low-density housing and automobile dependent neighborhoods. Urban sprawl in suburban areas makes access to

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<sup>24</sup> Schmal, Elser, and Scheuermann, *Making Heimat: Germany, Arrival Country*, 90.

daily amenities and essential services unattainable for residents without a vehicle. Saunders argues, “The adaptation of urban property for multiple uses—residential, retail, light-industrial, and food service, often simultaneously—is central to the experience of immigrant success.”<sup>25</sup> Combining multiple zoning uses within a concentrated area provides newcomers with access to a variety of services and opportunities for conducting business or developing networks with other individuals in the area.

In an interview with Friedrich Heckman, he differentiates between an “ethnic economy” and “niche economy”:

This kind of ethnic economy consists of, among other things, of grocery stores, bakeries, import-export businesses, translation agencies, and independent car repair shops. For more niche economies aiming to cater to the demands of the majority population—such as restaurants, market stalls, tailoring, or construction services—it is often cheaper to set up outside immigrant neighborhoods.<sup>26</sup>

Flexible zoning policies appeal to both types of economies by providing employment and services for both newcomers and existing residents. As an example, the article “Can a Syrian café hold the key to the German migrant crisis?” by Howard Johnson and Tobias Brauer describes the Royal Café owned by German-Palestinian, Omallah ali Maher and operated by Mr. Al Babi, a Syrian refugee that Maher met at the Red Cross camp in Oberhausen.<sup>27</sup> Johnson and Brauer explain, “All profits made by the business go towards paying the staff and paying back their debt. According to Mr. Ali Maher,

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<sup>25</sup> Peter Cachola Schmal, Oliver Elser, and Anna Scheuermann, *Making Heimat: Germany, Arrival Country* (Ostfildern: Hatje Cantz, 2016), 26.

<sup>26</sup> Peter Cachola Schmal, Oliver Elser, and Anna Scheuermann, *Making Heimat: Germany, Arrival Country* (Ostfildern: Hatje Cantz, 2016), 64.

<sup>27</sup> Howard Johnson and Tobias Brauer, “Can a Syrian Cafe Hold the Key to the German Migrant Crisis?” BBC News, November 22, 2016, accessed April 11, 2018, <http://www.bbc.com/news/world-europe-37990864#share-tools>.

who helps the men by collecting supplies and doing their German paperwork, the café's model of using business to help refugees is the answer to Europe's migrant crisis."<sup>28</sup>

Ensuring that resettled refugees are in areas that are not strictly segregated between residential and commercial uses allows them to engage in both the "ethnic" and "niche" economies as potential customers and employees.

### *Good Schools*

For refugee families with younger or adolescent children, having access to quality schools could promote the integration of the family into the new communities surrounding them. Attending school in the United States provides the children of refugee families with the resources they need to learn English, adapt to cultural norms and make new friends. The parents of the children may also be exposed to the information that the children are learning in school, which could promote the integration process for the family as a whole.

Furthermore, some schools promote community engagement for the areas in which they are located. For Rütli High School in Neuköelln, Germany, the school was transformed from a place characterized by violence to a community center. In the article, "The 'Bad Rütli' and What Happened Thereafter," Mechthild Küpper explains that the improved campus offers "new classrooms for the elementary school grades 1 through 6, school workshops (wood, metal, sewing, cooking), a vocational workshop, a community center with a parents' center, an educational workshop, a neighborhood

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<sup>28</sup> Johnson and Brauer, "Can a Syrian Cafe Hold the Key to the German Migrant Crisis?"

coordination office, a youth welfare office, a dentistry service,”<sup>29</sup> etc. Participating in school related community activities or services could connect refugee families with existing residents from the area and make them feel more comfortable in their new environment.

## **Exterior**

### *Accompanying Outdoor Area*

Extensive green lawns are a common characteristic of low-density residential housing in suburban areas whereas mid-rise apartments will occasionally have access to a green space that is shared among tenants or private balconies. Outdoor areas serve a variety of functions and have the potential to improve the quality of living for newly resettled refugees. In an interview with Ahmed, a refugee from Syria, Professor Howard Davis from the University of Oregon highlighted the importance of having an exterior garden or balcony by comparing Ahmed’s home in Syria to his new home in Essen, Germany.<sup>30</sup> Refining this idea, Christopher Alexander argues in his text, *Houses Generated by Patterns*, “Balconies and porches which are less than two meters deep are almost never used. They are often made small, to save money’ but when they are small, they might just as well not be there.”<sup>31</sup> Therefore, it is important to establish what kind of outdoor area is beneficial for resettled refugees.

As another example, Alexander establishes the importance of having at least one “multipurpose outdoor room” for the housing projects in Peru that is “open to the sky,

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<sup>29</sup> Peter Cachola Schmal, Oliver Elser, and Anna Scheuermann, *Making Heimat: Germany, Arrival Country* (Ostfildern: Hatje Cantz, 2016), 238.

<sup>30</sup> Howard Davis, “Interview with Ahmed”

<sup>31</sup> Christopher Alexander, *Houses Generated By Patterns* (Berkeley, CA: Center for Environmental Structure, 1969), 190.



surrounded or at least partly surrounded by a continuous roofed arcade, always two meters deep, and where possible, built up against the walls of existing buildings.”<sup>32</sup>

Considering the context of Peru, Alexander’s description is very different from the extensive lawns or apartment balconies in the United States; however, his argument for the “multipurpose outdoor room” has universal applications. He explains, “In existing modern housing projects, people rarely feel comfortable lingering outside their houses. There are few places where it is ‘alright to be.’ Yet at the same time, it is clear that almost everyone wants, at some time or another, to linger in some public place.”<sup>33</sup> The outdoor area that Alexander is describing defines social boundaries by denoting public and private spaces. Incorporating outdoor spaces that provide physical and visual indicators of public and private could benefit resettled refugees who need a balance of security and outside interaction in their new homes.

### *Connection to the Street*

The appearance and organization of residential streetscapes influences the amount of interaction that takes place between the public sidewalk and the private realm of the home. Considering the vulnerability of resettled refugees, achieving the appropriate amount of connection to the street has potential to create a secure and welcoming atmosphere. When discussing the pattern, “Degrees of Publicness,” Alexander emphasizes the importance of the street: “Houses in different parts of this area, have markedly different degrees of exposure to pedestrian circulation and nearby activities. Some are secluded, far from activity, on narrow lanes, with few people going

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<sup>32</sup> Alexander, *Houses Generated by Patterns*, 103.

<sup>33</sup> *Ibid*, 104.

past. Others are on main pedestrian thoroughfares, within hailing distances of potential activity, with many strangers going past all the time.”<sup>34</sup> Determining how much exposure to public activity along the street is suitable for resettled refugees is a significant consideration that influences the comfort of residents within the home itself.

In *The Death and Life of Great American Cities* by Jane Jacobs, she argues that different kinds of urban streets deter crime and promote security among residents. She explains, “There must be eyes upon the street, eyes belonging to those we might call the natural proprietors of the street. The buildings on a street equipped to handle strangers and to ensure the safety of both residents and strangers, must be oriented to the street. They cannot turn their backs or blank sides on it and leave it blind.”<sup>35</sup> If the streetscape is an active thoroughfare with a consistent influx of visitors and impromptu surveillance from existing residents, city or suburban streets become more secure environments. Jacobs’ argument for eyes on the street is also accomplished through mixed-use zoning. She explains, “The basic requisite for such surveillance is a substantial quantity of stores and other public places sprinkled along the sidewalks of a district; enterprises and public places that are used by evening and night must be among them especially.”<sup>36</sup> Integrating residential and commercial uses along the street creates secure spaces for both strangers and local residents.

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<sup>34</sup> Christopher Alexander, *Houses Generated By Patterns* (Berkeley, CA: Center for Environmental Structure, 1969), 60.

<sup>35</sup> Jane Jacobs, *The Death and Life of Great American Cities* (New York, NY: Random House, 1961), 35.

<sup>36</sup> Jacobs, *The Death and Life of Great American Cities*, 36.

### *Flexible Ground Floor / Shop House*

While the argument for blurring the lines between residential and commercial uses relates to the neighborhood scale, it also applies to the individual building scale. The shop/house typology is an example of live/work spaces where the ground floor is commonly reserved for commercial uses with access to the street and the succeeding floors accommodate residential uses. Living and working in the same building are financially feasible solutions for individuals with the initiative and skills to manage a business but may be unable to afford an additional rental space or are balancing familial obligations. In *Living Over the Store: Architecture and Local Urban Life* by Howard Davis, he explains, “The ordinariness of the shop/house comes largely from its purposefulness. The design and organization of these buildings are highly contingent on the details of family and economic life.”<sup>37</sup> The shop/house is primarily utilitarian and can be shaped by the economic and cultural needs of refugee families. As an example, Alexander’s pattern for the housing project in Peru, “Shop Front Possibility,” reveals that having a flexible space on the ground floor of a house provides low-income families with the opportunity to start a small shop that will supplement their income.<sup>38</sup> He elaborates, “The house contains space where the owner can start a small shop if they want to. The space need be no larger than 2x3 meters and should be in sight of the family room or kitchen.”<sup>39</sup> Creating connections between spaces for living and working

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<sup>37</sup> Howard Davis, *Living over the Store: Architecture and Local Urban Life* (Abingdon, Oxon: Routledge, 2012), 86.

<sup>38</sup> Christopher Alexander, *Houses Generated By Patterns* (Berkeley, CA: Center for Environmental Structure, 1969), 193.

<sup>39</sup> Alexander, *Houses Generated by Patterns*, 192.

with an appropriate amount of separation between the two encourages entrepreneurship for newcomers looking to gain social and economic capital.

In an interview with Kai Vöckler, Matthais Schulze-Böing describes the benefits of spaces that combine residential and commercial uses in Offenbach, Germany: “On many sites, housing and commerce co-exist in close proximity...[T]hese kinds of urban textures also offer huge opportunities for a productive kind of density, with creative ways of combining living and working and new small-scale economic structures, for start-ups and freelancers as well.”<sup>40</sup> The benefits of “small-scale” structures and opportunities for “start-ups” and “freelancers” in Offenbach could apply to refugees resettling in the United States and promote their ability to integrate into different economies and industries in their area of resettlement. Overlapping spaces for living and working is an alternative that could cater to the financial needs of newcomers.

## **Interior**

### *Central Hall*

The designated entry of a house serves as the pivot point and establishes the ensuing circulation throughout the home. The entry sequences in American homes are diverse and can lead into a covered outdoor area, enclosed porch, interior room, hallway, corridor, staircase, etc. The different configurations may provide residents or guests with a place to pause and store their coat or guide them directly into a public room. During the interview with Davis, Ahmed discusses the importance of having the entry from the outside connect to a central hall that provides access to the subsequent

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<sup>40</sup> Peter Cachola Schmal, Oliver Elser, and Anna Scheuermann, *Making Heimat: Germany, Arrival Country* (Ostfildern: Hatje Cantz, 2016), 258.

rooms in his original home in Syria.<sup>41</sup> He compares the central hall in his previous dwelling to his new residence in Essen, Germany where the entry and kitchen share a single, elongated space. The central hall Ahmed describes is a designated point that establishes a radial circulation through the house rather than the linear sequence created by combining the entry and kitchen. The relationship between the entry and the rest of the house influences how residents interact with the spaces around them, especially for newcomers who are adjusting to a new environment.

### *Gradient of Public and Private Spaces*

Dwellings represent the interface between the highly public outside world and the private domain of domesticity. The organization of rooms within the house further mediates the two realms of public and private. Areas for entertaining, specifically the living room and kitchen, are considered more public spaces that can facilitate the transition into the home from the street. Private spaces, especially bedrooms, are areas that provide refuge from the more public zones of the house and the street. The importance of creating a transition from public to private rooms within the house is exemplified in Alexander's pattern, "Intimacy Gradient." When discussing the housing project in Peru, he expresses the need for "a gradient from front to back, from the most formal at the front, to the most intimate and private in the back. This gradient requires the following strict sequence: Entry – sala – family room – kitchen – bedrooms. The most important element in this sequences is the sala (parlor). It is essential that the

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<sup>41</sup> Howard Davis, "Interview with Ahmed"

house contains a sala.”<sup>42</sup> Within the context of Peru, the organization of rooms establishes a sequence of spaces that accommodates the reception of guests while maintaining privacy for residents.

As Alexander’s example demonstrates, the symbolic significance of spaces and their corresponding arrangement are closely tied to the cultural context of a specific place. Considering the gravity of the Syrian refugee crisis, understanding the dwelling within the context of the Middle East is imperative. In “Privacy, modesty, hospitality, and the design of Muslim homes: A literature review”, Zulkeplee Othman, Rosemary Aird and Laurie Buys state, “Bahammam and Mortada suggested that privacy in traditional Islamic homes involves four main layers of privacy: (a) privacy between neighbors’ dwellings, (b) privacy between males and females, (c) privacy between family members inside a home and (d) individual privacy.”<sup>43</sup> Creating a gradient from public rooms to private rooms has potential to balance the different layers of privacy within traditional Islamic homes. As an example, the Container Villages in Bremen, Germany, by Architekten BDA Feldschnieders + Kisters in collaboration with a member from the Muslim Community, are a temporary housing project that employs courtyard spaces to “accommodate the need for peace and privacy, creating a layered system of private semi-private and public areas.”<sup>44</sup> The layering of spaces to balance public and private zones within the dwelling itself may influence how resettled refugees adjust to their new homes in the United States.

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<sup>42</sup> Christopher Alexander, *Houses Generated By Patterns* (Berkeley, CA: Center for Environmental Structure, 1969), 128-9.

<sup>43</sup> Zulkeplee Othman, Rosemary Aird, and Laurie Buys, “Privacy, Modesty, Hospitality, and the Design of Muslim Homes: A Literature Review,” *Frontiers of Architectural Research* 4, no. 1 (2015): accessed April 10, 2018, doi:10.1016/j.foar.2014.12.001, 15.

<sup>44</sup> “Making Heimat. Germany, Arrival Country,” *Making Heimat. Germany, Arrival Country – Database*, accessed April 11, 2018, <http://www.makingheimat.de/en/refugee-housing-projects/database>.

### *Formal Guest Room/ Kitchen Relationship*

In a typical American home, the living room and kitchen are the two primary public rooms where guests are received and entertained. The transition from the outside of the house into the living room and kitchen varies depending on the configuration of the house and its relationship to the street. Othman, Aird and Buys discuss how guests are received in traditional Islamic homes:

The *majlis* or ‘a place of sitting’ represents the masculinity and honor of a Muslim home. This part of the house is the only one that is directly accessible from the street and the main entrance. Several traditional homes in Iran still follow the traditional rules of *biruno* (exterior area) and *andaruni* (interior territory of the house); the guest rooms are decorated with Persian rugs and other ornaments to demonstrate their acceptance of guests and the importance of hospitality.<sup>45</sup>

Issues of gender and status are manifested in the physical connection between the entrance from the street and the area for welcoming guests into the home. Although the spaces for entertaining guests have socioeconomic functions across multiple cultures, the traditional American living room differs from the “guest rooms” described by Othman, Aird and Buys. In the interview with Davis, Ahmed differentiates between the “living room” for close family members and the “formal guest room” for important guests.<sup>46</sup> While the “guest room,” in a traditional American home is a space for guests to sleep overnight, the “formal guest room” that Ahmed refers to is one for receiving guests in a formalized setting.

The relationship between the kitchen and living room varies, especially since open concept layouts are a common feature in contemporary American homes. For

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<sup>45</sup> Zulkeplee Othman, Rosemary Aird, and Laurie Buys, “Privacy, Modesty, Hospitality, and the Design of Muslim Homes: A Literature Review,” *Frontiers of Architectural Research* 4, no. 1 (2015): accessed April 10, 2018, doi:10.1016/j.foar.2014.12.001, 20.

<sup>46</sup> Howard Davis, “Interview with Ahmed”

example, in Alexander's pattern for Peruvian housing, "Kitchen Family Room Relationship," he argues, "The relationship between the kitchen and family room follows two rules: (1) A standing person in the kitchen can see into the family room, but the kitchen counters cannot be seen from the family room; (2) Work areas in the kitchen are between 2.5 and 5 meters from the middle of the family room."<sup>47</sup> Achieving the suitable amount of separation between the kitchen and living room provides the proper setting for entertaining guests. Alexander explains, "On the one hand, people in the family room do not want to see too much of the kitchen. This is especially true when they are eating: they do not want to see the food preparation areas, nor dirty dishes... On the other hand, if the kitchen is too cut off, then the women of the family will feel isolated, when they are working there."<sup>48</sup> Again, the connection between the living room and kitchen supports socioeconomic conditions for different cultures. Consequently, the exchange between the living room or formal guest room and the kitchen has potential to influence the appropriateness of the home for newly resettled refugees.

#### *Functional Bathroom/Toilet Placement*

While bathrooms are a universal feature in homes, the location and configuration of the bathroom impacts issues of privacy and functionality. As a semi-public and semi-private space, the bathroom plays a role in the public/private gradient throughout the house. Alexander includes the pattern "Bathroom Position" for housing

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<sup>47</sup> Christopher Alexander, *Houses Generated By Patterns* (Berkeley, CA: Center for Environmental Structure, 1969), 145.

<sup>48</sup> Christopher Alexander, *Houses Generated By Patterns* (Berkeley, CA: Center for Environmental Structure, 1969), 146.



in Peru and states that the bathroom should be “placed ‘between’ the public and private parts of the house, in such a way that the path from sala to bathroom does not pass through the kitchen family room or bedrooms, and the path from bedrooms to bathroom does not pass directly through any area visible from the sala or family room.”<sup>49</sup>

Providing guests with access to the bathroom while reserving access to the private bedrooms for the residents reinforces the gradient from public to private spaces.

Furthermore, Alexander argues for a “Two Compartment Bathroom” that separates the toilet from the sink and shower for functional reasons. He explains, “In large families with one bathroom, there is a major queuing problem in the morning. Everyone wants to use the toilet, wash basin and shower at the same time. Separate, their use is doubled.”<sup>50</sup>

Correspondingly, the bathroom plays a significant role in the organization of a home for cultural and functional reasons.

### *Gendered Privacy*

Depending on the historical and cultural context of the place, the individual rooms within a home may appeal to a specific gender. In some cases, women are responsible for domestic duties, specifically cooking, cleaning, child rearing and elder care. Othman, Aird and Buys explain, “The domestic domain of a Muslim home is regarded as a female space. Women in the Middle Eastern courtiers embrace gender-segregated spaces that are enforced by the social system and turn these spaces into their

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<sup>49</sup> Alexander, *Houses Generated by Patterns*, 130.

<sup>50</sup> Christopher Alexander, *Houses Generated By Patterns* (Berkeley, CA: Center for Environmental Structure, 1969), 164.

respective domains.”<sup>51</sup> Since the home is a primarily female domain, issues of gender play a role in the visual and social connections within the house itself.

Within the context of Middle Eastern culture, women require visual privacy from the outside world, which can be accomplished by architectural design. For example, Othman, Aird and Buys describe, “The use of similar building heights and careful alternative locations of windows, such that the windows do not face tenants living opposite the home are used to control the visibility; thus, home dwellers, especially females, are visually protected from outside strangers.”<sup>52</sup> The placement and interaction between multiple buildings in a given area has potential to ensure the visual privacy from within the home, especially for female residents. In addition, separating female and male spaces inside the home support the disparate social spheres of both genders. Othman, Aird and Buys explain, “Female members of the family should have strong bonds with their female friends and relatives to exchange or keep updated with current news and information. Hospitality in traditional Middle Eastern homes emphasizes the need for separate male and female social spaces.”<sup>53</sup> Though gender roles have historically permeated the spaces of typical American homes, rooms are becoming more gender neutral and accessible with the increasing popularity of the open concept layout. For cultures outside of the United States that adhere to different social customs

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<sup>51</sup> Zulkeplee Othman, Rosemary Aird, and Laurie Buys, “Privacy, Modesty, Hospitality, and the Design of Muslim Homes: A Literature Review,” *Frontiers of Architectural Research* 4, no. 1 (2015): accessed April 10, 2018, doi:10.1016/j.foar.2014.12.001, 16.

<sup>52</sup> Othman, Aird, and Buys, “Privacy, Modesty, Hospitality, and the Design of Muslim Homes: A Literature Review.”

<sup>53</sup> Zulkeplee Othman, Rosemary Aird, and Laurie Buys, “Privacy, Modesty, Hospitality, and the Design of Muslim Homes: A Literature Review,” *Frontiers of Architectural Research* 4, no. 1 (2015): accessed April 10, 2018, doi:10.1016/j.foar.2014.12.001, 20.

and systems, entering a space without architecturally defined boundaries could challenge their way of life.

### *Olfactory Privacy*

The interior of a house will inevitably be subjected to a variety of scents and smells, which usually emanate from the kitchen. Alexander's argument for the partial separation between the living room and kitchen also addresses the olfactory privacy within the home. Othman, Aird and Buys confirm, "Sobh and Belk claim that olfactory privacy also plays an important role in the control of smells or odors produced in the kitchen to prevent them from spreading to space where guests are entertained."<sup>54</sup> The desired amount of olfactory privacy depends on the cultural context surrounding the home. Although "traditional Muslim home owners in the Middle East commonly use incense (incense woods or *oud* or incense sticks or *agrabati*) to disinfect the house and control the olfaction produced from cooking areas,"<sup>55</sup> individuals with a different background may welcome the smell of a home cooked meal throughout the house. Still, factoring in the importance of olfactory privacy is imperative and could strengthen the argument for the "Kitchen Family Room Relationship" that Alexander previously described.

### *Acoustical Privacy*

The amount of sound transmission inside a house affects how comfortable residents feel. Excessive sources of noise from outside traffic, construction, neighbors

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<sup>54</sup> Othman, Aird, and Buys, "Privacy, Modesty, Hospitality, and the Design of Muslim Homes: A Literature Review."

<sup>55</sup> Zulkeplee Othman, Rosemary Aird, and Laurie Buys, "Privacy, Modesty, Hospitality, and the Design of Muslim Homes: A Literature Review," *Frontiers of Architectural Research* 4, no. 1 (2015): accessed April 10, 2018, doi:10.1016/j.foar.2014.12.001, 17.

or noise from conversations, music, television inside the home are disturbances that cause distress among the individuals living there. According to Othman, Aird and Buys the primary concerns are managing “sound transmission and vibration from the outside into the internal domain or from one internal room or space to another,” which can be “achieved by thick walls to ensure acoustical privacy to fulfill privacy requirements.”<sup>56</sup>

Maintaining the acoustical privacy within the home further enforces the transition from public to private realms while promoting a sense of solitude and security. Othman, Aird and Buys explain, “Thick layers of walls made of mud bricks, stones, and rocks are used in several traditional homes in the Middle East to ensure proper sound insulation. This design intervention is also applied to floors and roofs to ensure the consistent control of horizontal and vertical sound transmission.”<sup>57</sup> The materials used for traditional Middle Eastern homes contrasts with the wood framing construction frequently employed in the Pacific Northwest. Despite the regional differences and opposing material selection, acoustical privacy is a consequential design consideration that could impact the day to day experiences of resettled refugees.

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<sup>56</sup> Othman, Aird, and Buys, “Privacy, Modesty, Hospitality, and the Design of Muslim Homes: A Literature Review.”

<sup>57</sup> Zulkeplee Othman, Rosemary Aird, and Laurie Buys, “Privacy, Modesty, Hospitality, and the Design of Muslim Homes: A Literature Review,” *Frontiers of Architectural Research* 4, no. 1 (2015): accessed April 10, 2018, doi:10.1016/j.foar.2014.12.001, 17.

## **The Interview Process**

The existing literature and case studies used to develop the initial list of potential patterns provided the criterion for conducting the semi-structured interviews with resettled refugees in Portland and Beaverton. With voluntary assistance from the PRSG, five families were recruited to participate in approximately one hour-long interview sessions at their residences. After obtaining oral consent to participate, the interviews were conducted in Arabic with help from Sarkawt Sabir, an interpreter referred to me by David Hollenberg from the Religious Studies Department at the University of Oregon and Yasmeen Hanoosh, the director of the Arabic Program at Portland State University. The refugee participants and interpreter were compensated using funds from the Extraordinary Expenses Research Grant from the Robert D. Clark Honors College for their assistance and services. Pseudonyms were used to protect the identities of the twelve individuals in the following reports.

While the initial list of potential patterns guided the specific topics that needed to be addressed during the interview process, the overarching research objective was to observe the living situations of the refugee families in Portland and Beaverton to determine how closely their current homes aligned with their values and needs. How were resettled refugees experiencing their current homes in Portland and how closely did these experiences align with their ideal living arrangement? If their current experiences did not align with their ideal living arrangement, how could architecture be used as a tool to adapt refugee housing to better facilitate the resettlement process? The qualitative information collected from the interviews was considered in two ways: 1) based on the experiences and background of the family; 2) based on how the family's

experiences and preferences compared to the initial list of potential patterns and the responses of other participants. The interview content was highly personal and contextual, so each story is valuable in its own right. Although the five families do not reflect the experiences of the refugee community as a whole, their individual stories are vignettes that capture how they feel about their new lives in the United States.

Furthermore, reoccurring issues or preferences from the initial list of patterns were discussed by multiple participants, which verifies the importance of specific topics.

### **The Nazari Family**

The Nazari family has been living in the United State for one year and four months after relocating from temporary housing in Turkey and leaving their original home in Syria. Rasha, her sister, Ranim, and her sister's husband, Aimar, have been living together for five months since moving from southeast Portland. The three adults live with a total of six children in a three bedroom, one bath family home in Beaverton, Oregon. The two families were previously located in separate apartment buildings within walking distance from each other at their previous living arrangements in southeast Portland. Although living in a densely populated area integrated the family with existing residents, the children experienced physical and verbal hostility from the neighbors. The family filed a complaint with their case manager and the building manager when the neighbors started throwing stones at their apartment unit and telling them to "go back to their own country." Compared to the antagonistic experiences in southeast Portland, the low-density suburban housing in Beaverton provides the family with more privacy, quieter surroundings and greater security.

Though the Nazari family appreciates the remoteness of their low-density community, the Beaverton area is significantly less navigable for them since they cannot afford to own a personal vehicle. The neighborhood has a Walk Score® of 58/100 and a Transit Score of 33/100<sup>58</sup>, which implies that some errands can be accomplished by foot with a few nearby public transportation options. As the sole provider of the family, Aimar leaves for work at 6:00am for his seven hour shift and returns home by 6:00pm since the commute takes an hour and a half one way via the TriMet bus system. At work, Aimar is more comfortable socializing with his Iraqi coworkers. Although the family occasionally walks to the nearby Safeway for groceries, they prefer catching the TriMet bus to Fredmeyer and Winco to take advantage of the cheaper prices and larger selection of items.

Apart from a Syrian friend who also lives in Beaverton, the Nazaris rarely interact with the neighbors living in the area. Although they have never been formally welcomed to the neighborhood by surrounding residents, the family still makes an effort to say hello to their neighbors in passing. At the local school, the Nazaris children are learning English and interacting with other children from the area. Rasha, Ranim and Amir have only engaged in the school community during parent-teacher conferences and required a translator to communicate with the faculty and staff. While the language barrier imposes communicative challenges, the family's financial status also prevents them from engaging in social interactions. According to Rasha, Ranim and Amir, they lack the capacity to be social without economic and social capital. Consequently, they

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<sup>58</sup> "Walk Score," Walk Score, <https://www.walkscore.com/> (Accessed January 25, 2018).

prefer to keep to themselves or interact with other refugees who are experiencing similar financial hardships.

The United States government provides the Nazari family with \$250 on a monthly basis in addition to food stamps and compensation for Rasha's deceased husband, who died of cancer five days after arriving in Oregon. Since her husband's passing, Rasha has been struggling with a psychological illness, so the government has provided her with more financial aid to address her health concerns. Despite the financial assistance from the government combined with Amir's income, it is still blatantly not enough to support the family. Though the family previously lived in a two-bedroom apartment in Syria, which was demolished, the family would be able to afford property in Syria with three months of rent in the United States. Other than the financial government assistance, the Nazari family has received minimal support from non-profits or NGOs.

The three bedroom, one bath family home is located on a quiet street in the Highland neighborhood among rows of other low-density residential homes with green lawns and two-car garages. Visitors are directed from the street to the driveway that leads to a covered outdoor entry vestibule. My interpreter, Sarkawt Sabir, and I were greeted by all six children crammed into a narrow hallway where we removed our shoes. Rasha, Ranim and Amir guided us into the living room and beckoned us towards a large three-seater sofa flanked by a polished-wood coffee table. The three adults pulled over chairs from the adjacent dining room to place across from us while the children shared the end of the sofa with us or sat on the carpeted floor. One of the older children served us tea and later coffee.



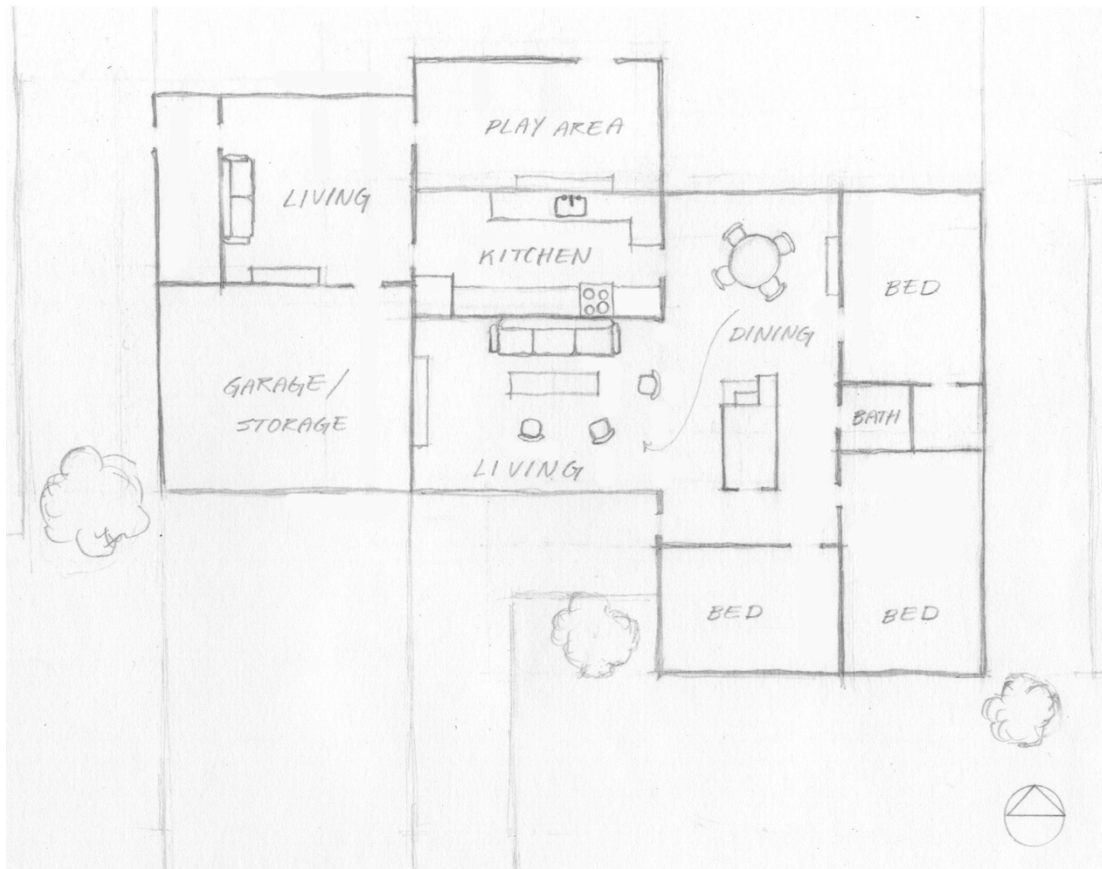


Figure 1: Floor plan of Nazari family residence

Not to scale

The wall that the sofa butts up against is also shared by the kitchen, so the living room is visually disconnected from the kitchen. Countertops, cabinets and appliances line both sides of the walls and the kitchen leads into another living area. Rasha explained that both living rooms were considered formal spaces for receiving guests; however, the clean laundry piled on the couch suggested otherwise. The second living room connects to the garage and an enclosed space that was originally exposed to the outdoors. Since the family cannot afford a vehicle, the garage serves as extra storage space and the enclosed space is used as a play area for the children. The three bedrooms

and one bathroom are accessed from the narrow hallway on the opposite end of the house near the entry vestibule. Each person has their own bed with Rasha and the younger girls in one room and the boys in the other. Still, the size of the house did not feel sufficient enough for such a large family overall.

The Nazari family expressed their desire to adjust to the United States and explained that they were not looking for a reason to dislike their current living situation. Every incident the family had experienced, in Syria, Turkey and the United States, was unpleasant up until now. It seemed like the family lived in isolation the majority of the time, especially since Rasha and Ranim do not feel comfortable interacting with strangers without Amir present. At first, the family was uncomfortable with the audio recording until Sarkawt thoroughly explained the purpose of the recording and emphasized that the data would be disposed of when the research was finalized. After the interview, Rasha asked that I delete the collected audio as a personal favor. Although the Nazari family lives cautiously due to their past experiences, they seemed to connect with Sarkawt, who is an immigrant from Iraq. The three adults asked him questions, told him stories and the children practiced their English with him. Creating spaces that encourage these kinds of interactions will be an essential part of the prototype pattern language.

### **The Awad Family**

Iman and Mahmoud Awad left Syria with their three younger children and have been living in the United States for approximately one year. The family was living in a two bedroom, one bath apartment in southeast Portland, just outside of Gresham, until they were relocated to a two bedroom, one bath townhouse only a mile away from their

previous location. Although they are relieved to be away from the frequent drug activity and constant noise in the high-density apartment complex, they are further from away from the Wasem family, another resettled family from Syria. When the two families were living in close proximity, Iman used go over to the Wasem residence without calling ahead of time, which is customary for close Syrian friends. The two families originally connected because their children are around the same age groups, so they have supported each other ever since. The surrounding residents in their new neighborhood come from diverse backgrounds but the family interacts with them infrequently.

A large community of Syrians reside in the area; in fact, community events for Syrian families are held at the Rosewood Community Center, but the family hasn't felt comfortable enough to attend. The Awad family's caseworker, Cheri Smith, suggested that refugees living in the Gresham area must be more self-sufficient because they are isolated from the more structured support systems for refugees in Beaverton. The PRSG offers programs on Sundays where a volunteer will come over to the family's house to teach English lessons. Despite Cheri's primary role as the family's caseworker, Iman and Mahmoud considerer her a member of the family and call her their "second mother."

Until recently, the family accessed daily amenities and services, primarily Goodwill and Fred Meyer, via the TriMet bus system or Cheri would offer to drive them herself. Since Iman is a paid caregiver for her husband, Mahmoud, her primary commute during the week was to English classes at the Portland Community College using the TriMet bus. The neighborhood has a Walk Score® of 82/100 and a Transit

Score of 54/100<sup>59</sup>, which indicates that most errands can be accomplished by foot with many nearby public transportation options. However, Iman recently acquired an Oregon driver's license, which will enable her to transport Mahmoud in an accessible van due to his physical disability. His disability is connected to the war in Syria and requires him to use an electric wheelchair, which makes utilizing public transportation challenging. Iman and Mahmoud also implied that one of their sons suffers from post-traumatic stress disorder, which has affected his experiences at school. The Oregon Health Plan insurance has been providing the family with transportations options for medical appointments and other support, but possessing the van will simplify the family's commute.

The Awad family's new two bedroom, one bath townhouse occupies the far end of the property surrounded by a cluster of trees and an extensive green lawn. Despite the stark appearance of the green space, it functions as a buffer from the busy main street that borders the property. When the family initially arrived in the United States, the apartment's close proximity to the street was evocative of houses in Syria, which adjoin the street. After experiencing the ramifications of living in a denser area with high levels of activity and interaction, the family feels less comfortable being exposed to the street. Since Mahmoud is frequently confined to the indoors due to his disability, he appreciates the tranquility of the townhouse, especially when birds can be heard chirping outside.

The ramped entry into the house leads directly into the small living room furnished with two love seats, a coffee table and a television. Cheri and one of the

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<sup>59</sup> "Walk Score," Walk Score, <https://www.walkscore.com/> (Accessed January 25, 2018).

younger children sat on the love seat near the entry while Sarkawt and I sat on the other one closer to the kitchen. The living room and dining area were visually connected but a partial wall concealed the kitchen, so we could hear Iman making coffee and tea for us but could not see her. When asked about the configuration of their home in Syria, Iman and Mahmoud emphasized the relationship between the formal guest room and the entry. The formal guest room faced the exterior of the house to reduce guests' exposure to the entire home. More importantly, the kitchen was completely isolated from the guest room, which contrasts with the semi-open layout of their current home.

Around the corner from the living room, an abrupt, narrow corridor leads to two bedrooms and one bathroom. Unlike the corridor of the townhouse, the circulation of Iman and Mahmoud's previous residence in Syria transitioned from one room to the next. In other words, rooms opened off of each other rather than relying on a central corridor to connect them. When discussing the flow of rooms, the Awad family also distinguished between the different types of construction used in the United States versus in Syria. While wood frame construction is commonly utilized for residential homes in the Pacific Northwest, post and beam concrete construction is typically used for residences in Syria.

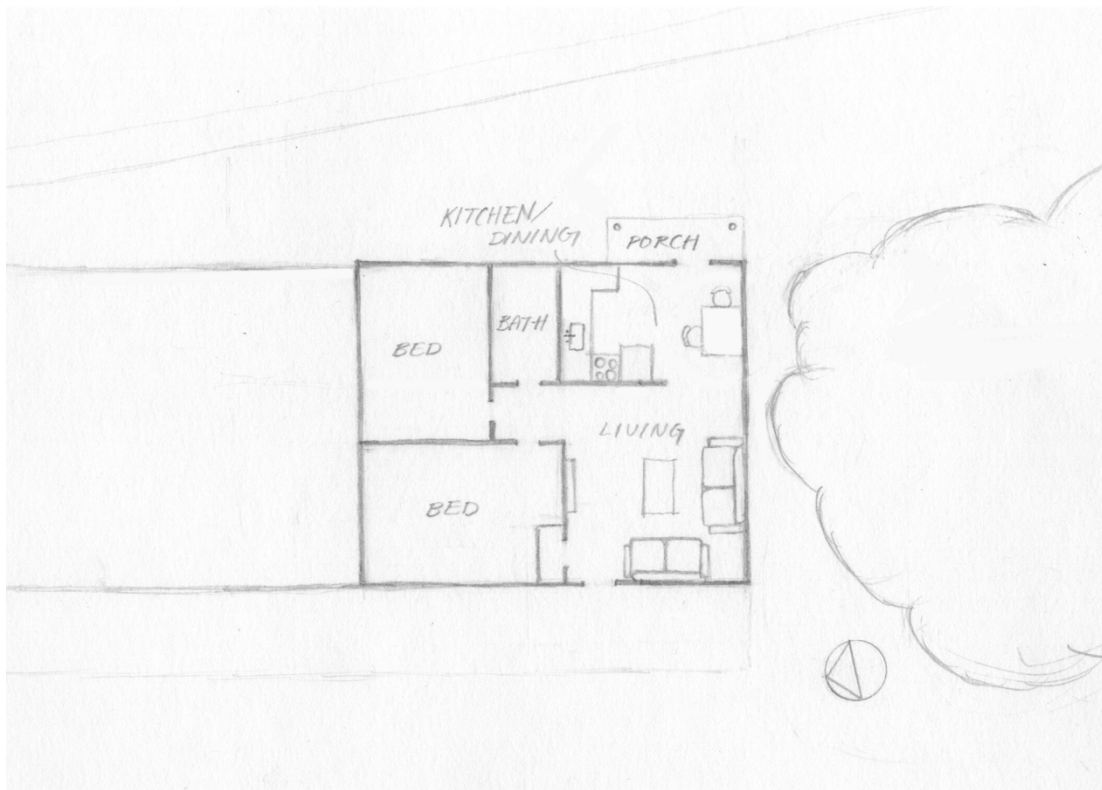


Figure 2: Floor plan of Awad family residence

Not to scale

The Awad family’s experiences moving to a lower-density townhouse from a higher-density apartment are mixed since they were surrounded by drug activity but connected with the Wasem family. The public and medical support from multiple entities has improved the family’s ability to adjust to life in the United States by connecting them with a generous volunteers and providing them with the resources to obtain a personally owned means of transportation. Though Iman and Mahmoud appreciated the exterior landscaping around the townhouse, they described in the interior as “depressing.” The townhouse satisfies accessibility issues to accommodate

Mahmoud's limited physical capabilities, but the interior configuration of the house is disconnected from the family's emotional, social and cultural needs.

### **The Wasem Family**

The Wasem Family has been adjusting to life in the United States in the same three bedroom, two bath apartment in Portland for a total of eight months. Yara lives with her elderly mother, Fatima, and her four children. Though they feel comfortable inside or outside of their apartment unit, Yara feels less secure with the Awad family living further away. The high-density apartment complex has brought the family in close contact with people of different backgrounds. One of the children attends school with a classmate who lives downstairs, so Yara would feel comfortable reaching out to the downstairs neighbors for help if she had to. Newcomers are also living next door and make an effort to greet the Wasem family in passing. As a single mother and paid caregiver for Fatima, the majority of Yara's errands are to Winco via the TriMet bus since the nearby options are more expensive. On Fridays, she leaves the house at 6:00am and transfers buses twice to return home with food from Winco for the children by 9:00am. The neighborhood has a Walk Score® of 82/100 and a Transit Score of 52/100<sup>60</sup>, which implies that most errands can be accomplished on foot with many nearby public transportation options. The nearby amenities and sufficient public transportation are essential for the Wasem family since they cannot afford to own a personal vehicle.

The United States government provides the family with \$300 plus \$300 for Yara's work as a caregiver, \$700 for Fatima and \$700 in food stamps. The government

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<sup>60</sup> "Walk Score," Walk Score, <https://www.walkscore.com/> (Accessed January 25, 2018).

funding and Yara's income go towards paying \$1,250 for monthly rent and other daily necessities. The family is able to live off the financial support from the government but are unable to deposit any money into a savings account. The Wasem family has access to other sources of public support. For example, the Rosewood Community Center is within walking distance from the family's residence and provides English courses for resettled refugees; however, Yara's busy schedule and Fatima's health conditions prevent them from participating in the programs that are offered there. Catholic Charities even donated a Christmas tree and toys for the children during the holidays. Another public entity that the Wasem family interacts with occasionally is the children's public school. Yara's communication with the school has been limited but the institution's teachers and volunteers acknowledge the family's circumstances and encourage her to become more involved. The few times Yara was required to attend parent-teacher conferences, a translator was provided. The financial assistance from the government and additional networks of public support have made the Wasem family more comfortable in their new environment.

The three bedroom, two bath unit is accessed from the north side of the apartment complex via a covered exterior staircase. The entry to the family's third floor unit opens onto a linear hallway that connects to the kitchen, a corridor to the private bedrooms and the living room. A row of counter tops and casework stretches between the apartment's west party wall and the partial wall that separates the entry hallway from the kitchen. Although the living/dining room extends beyond the kitchen, the stretch of casework creates a physical separation between both rooms. Still, the kitchen is visually, acoustically and olfactorily connected to the living/dining room. Sarkawt



and I settled in on a large sofa along one of the interior walls while Yara and Fatima sat on dining room chairs across from us. Yara placed the tea and coffee that she prepared on a dining room chair, which she moved in front of us. The Wasems explained that they had never hosted formal guests in their new home in the United States before. Though the family was accustomed to having kitchens near the entry of the home in Syria, the kitchen was always completely closed off from the rest of the house.

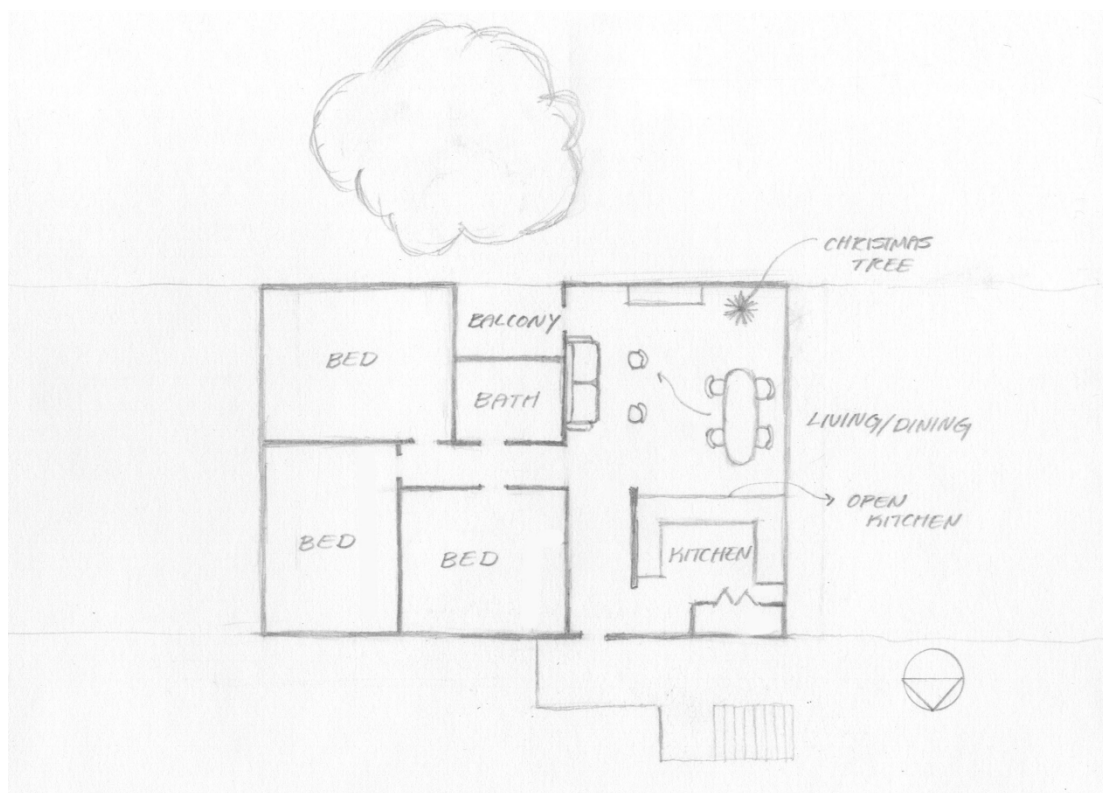


Figure 3: Floor plan of Wasem family residence

Not to scale

The Christmas tree from Catholic Charities occupies the far corner of the living room near a door to the exterior balcony on the south end of the unit. Outdoor balconies are a common feature in Syrian apartments, so the family appreciates the similarity. Yara experiences complete privacy within and outside of her house regardless of the

time of day. She expressed that she is “like a man” with a sense of confidence and security. Although the family is adjusting to the United States, Fatima continues to mourn the loss of her forty-seven-year-old son and her previous four-story house in Syria during the war. Generations had been raised in her home in Syria so it is symbolic of many memories and experiences.

Adjusting to their new environment has not been easy but the Wasem family seemed optimistic. The family has been gradually forging relationships with the surrounding community and neighbors while utilizing the public transportation system for daily errands. It seems like the apartment complexes in Syria share similar features to their current apartment even though the configuration of Middle Eastern homes accommodates guests more easily. Yara explained that she is grateful for her children and that the transition to the United States would have been even more difficult without them.

### **The Bahar Family**

When Amena and Mohammed arrived in the United States from Turkey two years ago, after departing from their home in Damascus, Syria, Amena was pregnant with their first child. The Bahar family temporarily resided with an Egyptian family that Mohammed had become acquainted with in Turkey. When both families were living in Turkey, Mohammed was in the painting business and sold the Egyptian family his original artistic works, so the two families’ personal relationship evolved from a business exchange. The husband of the Egyptian family served as the Bahars’ “guarantor” to ensure that the government would not relocate the couple far away while Amena was pregnant. After two days with the Egyptian family, the couple moved to a

one bedroom, one bathroom unit on the third floor of an apartment in Hillsboro with funding from the welcoming committee. Amena choose the Hillsboro apartment for its exceptional daylighting, landscaping and views to the outside even though Mohammed wanted a place in close proximity to a hospital. While living in Hillsboro, the family experienced an incident where an inebriated woman attempted to break into their unit at two o'clock in the morning, thinking it was her friend's residence. Since the occurrence, Mohammed has been more cautious about locking the doors at night.

After their son was born, the Bahars moved to their current two bedroom, one bath apartment in Beaverton. At their current residence, the couple briefly interacts with the surrounding neighbors, especially the Iraqi and Saudi families. Although the Beaverton neighborhood received a Walk Score® of 92/100 and a Transit Score of 72/100<sup>61</sup>, which implies that daily errands do not require a car and transit options are convenient for most trips, the couple owns a personal vehicle and both adults have drivers licenses. Amena walks to Safeway on occasion for certain items, but the family prefers to drive to Costco to take advantage of the broader selection and reduced prices. Before Amena and Mohammed owned a car, the Egyptian family allowed the couple to borrow their car until they could afford one. The Egyptian husband also found Mohammed a kitchen job at the Marriott Hotel and then later for Amazon Prime. Although Amena has been busy taking care of her newborn son, she hopes to find employment in the future.

For the past four to five months, the Bahar family has been living in their two bedroom, one bath unit on the ground floor of the apartment complex in Beaverton. A

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<sup>61</sup> "Walk Score," Walk Score, <https://www.walkscore.com/> (Accessed January 25, 2018).

shared, expansive grassy lawn extends across the property separating the apartment building from the tenant parking lots. The entry of the house opens directly into the living room with one love seat positioned next to a coffee table across from a fireplace. Iman and Mohammed dragged over two chairs from the dining room to face us on the love seat. A flat screen television is mounted above the fireplace and two of Mohammed's canvas oil paintings are hung on either end of the love seat. Amena offered us tea and cookies as their younger son squirmed in Mohammed's arms. Meanwhile, a children's television program played in Arabic in the background. While the open-concept layout in the Hillsboro apartment combined the kitchen, dining and living spaces, the kitchen in their current apartment is visually obscured from guests in the living room. Yet, the kitchen is still acoustically and olfactorily exposed to the dining and living rooms. In Damascus, the couple was living with Mohammed's parents in a one-hundred and eighty square meter apartment unit on the fifth floor with generous three-meter-high ceilings. The kitchen in the spacious apartment was completely separated from the rest of the house to provide privacy for the women who were cooking.

The two bedrooms and one bathroom are accessed via a long corridor positioned in between the living and dining rooms. The acoustical properties of the apartment complex in Beaverton are poor and the construction of the building inadequately prevents the transmission of sound between units. An elderly Asian couple and their son living above the Bahar family complains frequently about noise. Amena and Mohammed had to request that the apartment managers to change the metal closet doors for them because their neighbors disliked how squeaky they were. The elderly couple

has also complained about being disturbed by the amount of noise that Amena and Mohammed's son makes, especially when he was an infant. Consequently, the Bahar family is dissatisfied with the auditory properties of wood frame construction compared to the absorptive qualities of thick concrete construction utilized in Syria.

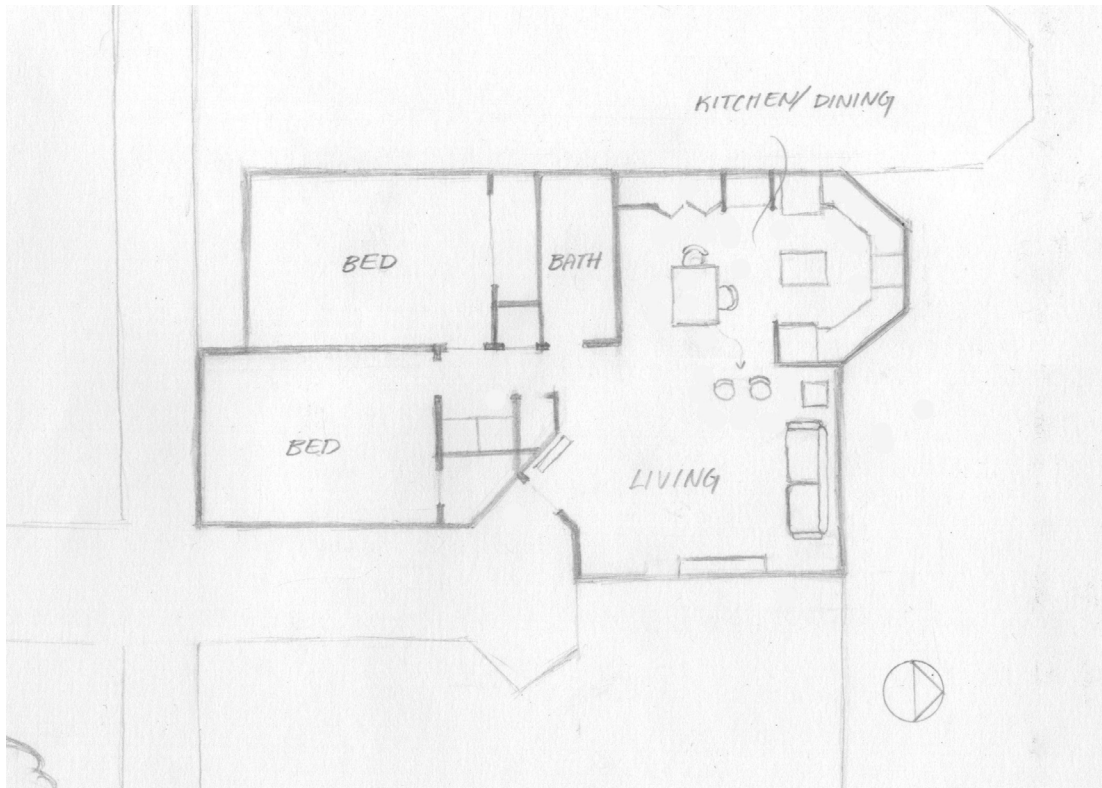


Figure 4: Floor plan of Bahar family residence

Not to scale

The generosity and guidance from the Egyptian family was essential to Amena and Mohammed's transition to the United States. The Egyptian family established political, social and economic networks in the Portland area after immigrating from Turkey and were able to offer support to the Bahar family. Without their help, the Bahar family would not have had access to temporary lodging, an affordable vehicle and

employment opportunities. The apartment unit in Portland seems to serve the family's basic needs, but the noise complaints from the neighbors is an on-going issue. Although the family makes a daily effort to respect their neighbors, they feel like their freedom in the house is limited.

### **The Kalb Family**

Before resettling in their current three bedroom, one bath apartment in Portland for the past year and a half, Yasmineen, Joram and their five children were received by a welcoming committee after leaving Syria and were transferred to a temporary residence for one month. The family was then relocated to a church five minutes away from their current home. The neighborhood in Portland has a Walk Score® of 42/100 and a Transit Score of 32/100<sup>62</sup>, which implies that errands require a car with few nearby public transportation options, so the Kalb family relies on their minivan to commute to work and medical appointments for the children. Joram currently makes \$14 an hour as a sous chef at a Lebanese restaurant in Tualatin.

Two of the five children have skin conditions and are physically disabled, so Joram is frequently transporting the children to doctor's appointments for treatment. The Kalb family's health insurance has provided both daughters with electric wheel chairs. During the week, the children commute to school via the local school bus with an accessible ramp. Yasmineen and Joram are appreciative of the school's understanding and the teacher's efforts to adjust to their children's special needs. Besides the public support they receive through their healthcare plan, the family occasionally receives visits from a volunteer from Catholic Charities. According to Yasmineen and Joram,

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<sup>62</sup> "Walk Score," Walk Score, <https://www.walkscore.com/> (Accessed January 25, 2018).

people in the United States mind their own business and are not as approachable as people in Syria. Even though the surrounding neighbors are loud at times, there is a mutual understanding and tolerance among the residents. The family feels like they have enough privacy in their home, but they keep the windows closed the majority of the time as a precautionary measure.

The three bedroom, one bath unit on the ground floor of the apartment faces an internal street that connects the various identical complexes to the southwest and a shared green space to the northeast, which the family rarely uses. In contrast, Joram recounted the beautiful trees, gardens, open lawns and covered outdoor spaces surrounding the temporary residence that they had occupied for the one-month period. One of the most notable features was a dome structure covering outdoor chairs and tables for people to sit at. Furthermore, the grounds were well maintained by a maintenance crew. Joram described the temporary residence as “heaven” and his current home as “prison” in comparison. The entry to their current unit is obscured by the exterior stair leading to the upper floors of the apartment building. Visitors enter through a brief hallway that opens onto the living room with a clear view to the shared grassy space on the exterior. Sarkawt and I occupied one of the two sofas positioned along the east party wall across from the television and another sofa where Yasmeen and Joram were sitting.

The thirteen-year-old daughter was sprawled out on the floor while her younger sister sat on the couch closest to the door. The older daughter was laying on her stomach as she smiled at us unable to support her head or wipe the mucus dripping from her nose. Joram explained that the electric wheel chairs provided by the family’s health

insurance were too wide to fit through the door frames in the house. Throughout the home, the corners of baseboards and door frames were scraped from attempting to move the wheel chairs between rooms. Consequently, Joram allows the children to rest on the carpet when the family is home and carries the children from room to room or to the minivan for transport.

The living room and dining room are essentially combined spaces that transition into the kitchen. As a result, the three rooms are visually, acoustically and olfactorily connected. Joram showed us a video on his phone of the family's previous five bedroom house in Syria with high ceilings, polished black and white interior walls, ornate décor and electronic controls. It was difficult to ascertain the configuration of the house based on the video, but it was clear that the home in Syria was a source of pride for Yasmeen and Joram. A corridor leads from the living/dining room to three private bedrooms and one narrow bathroom. Another aspect that Kalb Family appreciated at the temporary residence was that there were multiple bathrooms and they were spacious in size. Due to the children's skin condition, the parents spend one to two hours bathing them in the bath tub. It is challenging for Joram to navigate the small size of their current bathroom with his thirteen-year-old daughter in his arms. Furthermore, if one of the girls is being bathed, no one else can access the bathroom for hours at a time.



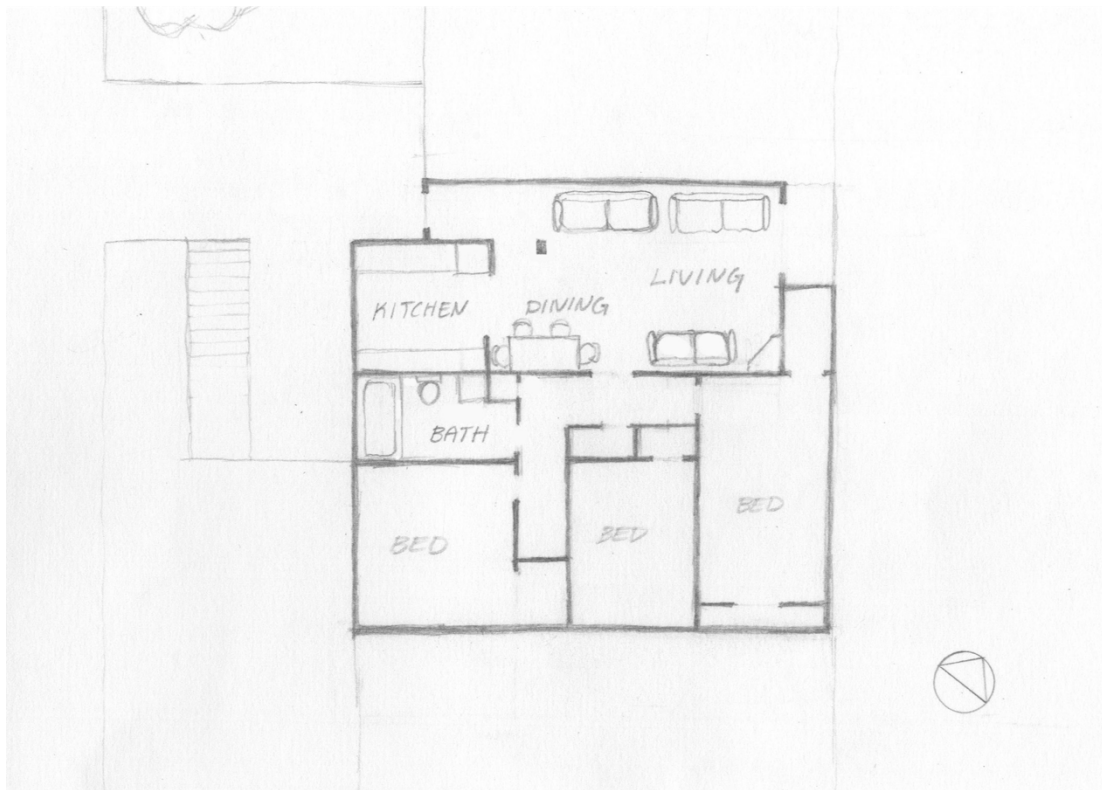


Figure 5: Floor plan of Kalb family residence

Not to scale

The Kalb family is so frustrated with the limitations of their current apartment unit that they are willing to pay more to rent a more spacious home, even if it is further away from their current location. The family even applied for a different apartment in Camas, Washington but the application was denied. Yasmeen and Joram experience daily mental and physical exhaustion from attempting to navigate an apartment that was not designed to accommodate people with disabilities. My interpreter, Sarkawt, even exchanged contact information with Joram before leaving and offered his help if the family ever experienced an emergency situation.

## **Interview Reflections**

Although the five families do not reflect the experiences of all refugees, their individual stories capture how they feel about their new lives in the United States. The majority of the families live in isolation and lack the resources to feel comfortable interacting with their surrounding communities and neighborhoods. The interview process demonstrated that their current living situations did not align with their emotional and cultural needs. Furthermore, the design issues that the five families were experiencing uncovered inherent problems with the design of American homes in general. The lack of connectivity, lack of privacy, and lack of accessible spaces is detrimental to both American citizens and vulnerable newcomers with limited social and financial capital. While the information gathered during the semi-structured interviews supports the creation of the prototype pattern language, each family's story is equally important in its own right.

## A Prototype Pattern Language

The finalized pattern language incorporates the findings from both the existing literature and case study review in addition to the semi-structured interviews. Each individual pattern in the pattern language follows a specific format for clarity in *A Pattern Language: Towns, Buildings, Construction*. A similar format will be utilized to communicate the patterns generated for refugee housing in Portland. The pattern language format includes the following:

1. A title summarizing the essence of the pattern.
2. A headline that gives the essence of the problem in one or two sentences.
3. The “body of the problem” describing the “empirical background of the pattern, evidence for its validity, the range of different ways the pattern can be manifested in a building, and so on.”<sup>63</sup>
4. “The solution—the heart of the pattern—which describes the field of physical and social relationships which are required to solve the stated problem in the form of an instruction.”<sup>64</sup>
5. A diagram, which shows the solution with “labels to indicate its main components.”<sup>65</sup>
6. And finally a section that “ties the pattern to all those smaller patterns in the language, which are needed to complete this pattern, to embellish it, to fill it out.”<sup>66</sup>

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<sup>63</sup> Christopher Alexander, Sara Ishikawa, and Murray Silverstein, *A Pattern Language: Towns, Buildings, Construction* (New York: Oxford University Press, 1977), xi.

<sup>64</sup> Alexander, Ishikawa, and Silverstein, *A Pattern Language: Towns, Buildings*, xi.

<sup>65</sup> *Ibid*, xi.

<sup>66</sup> *Ibid*, xi.

Using the format will ensure deliberate consistency and comprehensiveness for each pattern. Overall, the legibility, replicability and flexibility of Alexander's pattern language framework make it an ideal strategy for reframing the design approaches towards refugee housing in Portland.

## **Summary of the Language**

### Community

1. *Suburban Cores*
2. *Ethnically Homogeneous Networks*
3. *Access to Transportation*

### Neighborhood

4. *Formalized Outreach*
5. *Informal Advocate*
6. *Affordable Housing*
7. *Overlap of Neighborhood Uses*
8. *Community Schools*

### Exterior

9. *Intermediary Green Space*
10. *Defensible Street*

### Interior

11. *Formal Guest Room*
12. *Enclosed Kitchen*

13. *Permeable Rooms*

14. *Accessible Spaces*

15. *Acoustical Privacy*

## **Community**

### *1 Suburban Cores*

**Although dense urban areas are desirable for their access to commercial and social activities, they can also be sources of commotion, vulnerability and hostility. On the other hand, the urban sprawl of the suburbs is isolated from amenities and difficult to navigate via public transportation.**

Although central areas with high *urban density*, or close proximity of habitants residing in a concentrated area, connect resettled refugees to a diverse range of activities and opportunities for interaction, locating families in these desirable areas is challenging, especially with the lack of affordable housing in Portland. As Doug Saunders discusses in “Arriving on the Edge: Migrant Districts and the Architecture of Inclusion” from *Making Heimat: Germany, Arrival Country*, greater *urban density* promotes high levels of human activity in and around public spaces, which provides newcomers with a sense of security and belonging. Larger concentrations of inhabitants within a specific area also promotes “clusters of commercial activity and social vitality”<sup>67</sup> that appeal to both newcomers and existing residents.

However, the Nazaris, Awads and Bahars, have experienced hostility, drug activity and alcohol related incidents while living in Portland. In fact, the Nazari family

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<sup>67</sup> Peter Cachola Schmal, Oliver Elser, and Anna Scheuermann, *Making Heimat: Germany, Arrival Country* (Ostfildern: Hatje Cantz, 2016), 24.

prefers living in their low-density, suburban neighborhood in Beaverton because it provides a greater sense of privacy and security. However, the single-use zoning in suburban areas results in *urban sprawl*, where the distance between residential and commercial zones can be more conveniently maneuvered with a personally owned vehicle. The Nazari and Wasem families solely rely on public transportation to commute to work, grocery outlets, medical appointments, social gatherings, etc. so living in the suburbs is especially challenging for them. In addition, the Nazari family is fairly isolated living in a neighborhood of single-family homes because there are fewer individuals to interact with.

Resettling refugees in areas with medium-density achieves a balance between the overstimulating activity of high-density urban environments and the isolation of the low-density suburbs. Areas with a concentration of commercial uses, typically retail shopping centers, medical entities, office buildings, are commonly encompassed by residential uses. Locating refugee families in suburban neighborhoods near centers of commercial activity attains a balance of urban activity and suburban privacy.

Therefore:

**Locate resettled refugees on the peripheries of the greater Portland area near clusters of commercial activity offering daily amenities and essential services. The intermediate density of suburban centers protects refugee families from the negative interactions that occur in urban environments while providing them with opportunities to accomplish daily errands, conduct business or develop relationships with other individuals.**

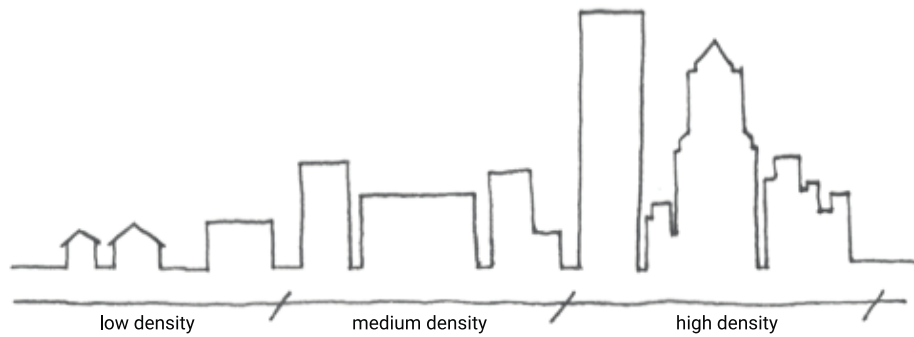


Figure 6: Suburban Cores Diagram

Achieving a balance between high urban and low suburban density

Suburban cores provide affordable housing options with greater connectivity to commercial uses and more urbanized areas—*Affordable Housing (6), Overlap of Neighborhood Uses (7)*. The commercial activity of suburban centers needs to be easily accessed by the surrounding residents as well as distant neighborhoods, so multiple public transportation routes must connect each commercial core—*Access to Transportation (2)*. Locating several refugee families around the same commercial hub will also create a potential network of support—*Ethnically Homogenous Clusters (3)*.

## 2 Access to Transportation

**As newcomers in a foreign country, refugees frequently lack the financial capacity to own a personal vehicle but require a means of transportation to travel to work, accomplish daily errands and engage in cultural or social activities.**

If newcomers with limited financial resources resettled in areas with *urban sprawl*, or areas that are separated into residential and commercial zones, it is more challenging for them to access public amenities via public transportation. The networks of public transportation in city centers are more extensive since they are catering to a

greater population of people in a concentrated area. Since a lower population of people are widely distributed in suburban areas, public transportation is less extensive.

Depending on the destination, individuals are required to utilize one or more forms of public transportation including city buses, trolley buses, trams, passenger, trains, rapid transit, etc. If the stations or stops for the different transit options are an extended distance from refugees' residences and arrive at infrequent intervals, public transportation is an inconvenient option.

As mentioned in the Willamette Weekly article, "I Moved to the Edge of Portland to Help Refugees. But They Can't Afford to Live Here Anymore," refugee families are frequently located in suburban areas outside of the city center with limited access to public transportation.<sup>68</sup> Aimar Nazari's commute to work is an hour and a half one way while Yara Wasem's commute to Winco requires her to leave the house at 6:00am and transfer buses twice to arrive home at 9:00am in time to feed her children. For families with disabled individuals, transit options are even more challenging to utilize. The Awad and Kalb families rely on personal vehicles to transport family members to medical appointments on a regular basis. Amena and Mohammed Bahar have access to more amenities and services because they borrowed and then purchased their own car.

If an individual's destination is farther than a five-minute walk or quarter mile radius from their home, using a vehicle is a more convenient option. When the destination is within a five-minute walk or quarter mile radius from the individual's

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<sup>68</sup> "I Moved to the Edge of Portland to Help Refugees. But They Can't Afford to Live Here Anymore," Willamette Week, <http://www.wweek.com/news/2016/09/13/i-moved-to-the-edge-of-portland-to-help-refugees-but-they-cant-afford-to-live-here-anymore/> (Accessed June 1, 2017).



location, walking is more favorable. Correspondingly, situating resettled refugees in areas within a quarter mile radius of a main station or stop provides them with more direct access to public transportation networks. The distance individuals have to travel to reach a station or stop will be reduced, which has potential to shorten the overall commute time for a given trip. Furthermore, primary stations or stops operate at regular intervals and will decrease the overall wait time.

Therefore:

**Main public transportation stations or stops must be within a five-minute walk, approximately a quarter mile radius, from a family's residence. If refugees' residences are within a quarter mile radius from a primary station or stop, public transportation will be a more convenient option with reduced commute times and access to more extensive routes.**

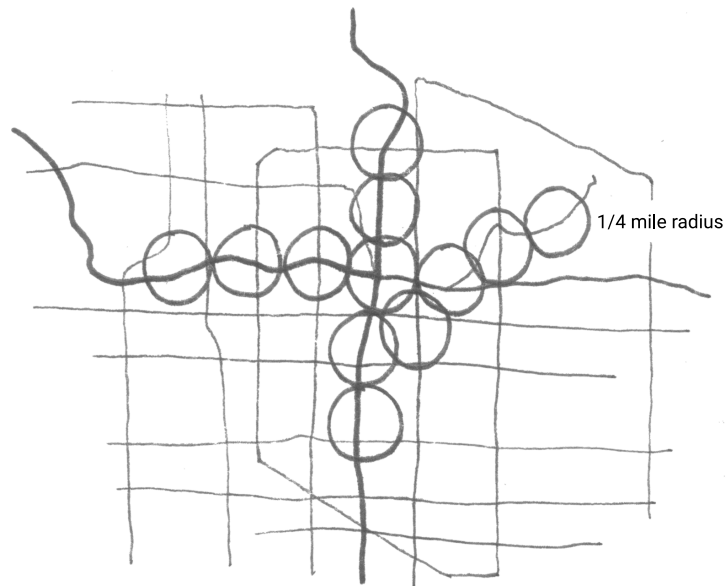


Figure 8: Access to Transportation Diagram

Providing access to primary public transportation routes within a quarter mile radius of refugee families' residences

Since affordable housing is consistently located in suburban areas outside of the city center, proximity to public transportation is essential for low-income families—*Affordable Housing (6)*. Networks of public transportation mitigate the spatial distances that exist between commercial and residential uses—*Overlap of Neighborhood Uses (7)*.

### 3 *Ethnically Homogenous Clusters*

**Language and cultural barriers frequently isolate resettled refugees from the residential communities around them even though interactions with the existing neighbors has the potential to promote integration.**

Although the legal resettlement policies require agencies to locate refugees throughout the Portland area, the majority of the refugee families seldom interacted

with the existing residents in their neighborhoods. The language and cultural differences are two of the main factors that maintain the separation between refugees and local neighbors. Still, as Jürgen Friedrichs argues in “The Arrival City and the Integration of Migrants,” widely distributing refugee families across a specific area inevitably brings newcomers into contact with existing residents who have potential to facilitate the integration process and promote the inclusion of diverse groups of people.<sup>69</sup>

At the same time, previously resettled refugees or immigrants provide political, social and economic support for newcomers. Saunders argument that “refugees who are economically and educationally successful tend to be those who have resettled from their original settlement city into established urban immigrant enclaves, thus becoming integrated economic migrants rather than asylum cases sponsored by the state”<sup>70</sup> is applicable to the Bahar family’s situation. The Egyptian family that Mohammed Bahar conducted business with in Turkey served as the family’s “guarantor,” allowed them to borrow his personal car and found multiple employment opportunities for Mohammed. The personal relationship between the two families improved the Bahar family’s ability to adapt to their new environment by providing them with financial and social capital. The supportive network between the Awad and Wasem family is another example. In fact, both families feel less secure living father away from each other.

Therefore:

**Situate two to three refugee families in close proximity to each other to form a small network of newcomers that can support each other. Clustering a**

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<sup>69</sup> Peter Cachola Schmal, Oliver Elser, and Anna Scheuermann, *Making Heimat: Germany, Arrival Country* (Ostfildern: Hatje Cantz, 2016), 82.

<sup>70</sup> Schmal, Elser, and Scheuermann, *Making Heimat: Germany, Arrival Country*, 26.

**small community of earlier resettled refugee families with newcomers facilitates economic, social and cultural integration while maintaining exposure to the existing residents within the area.**

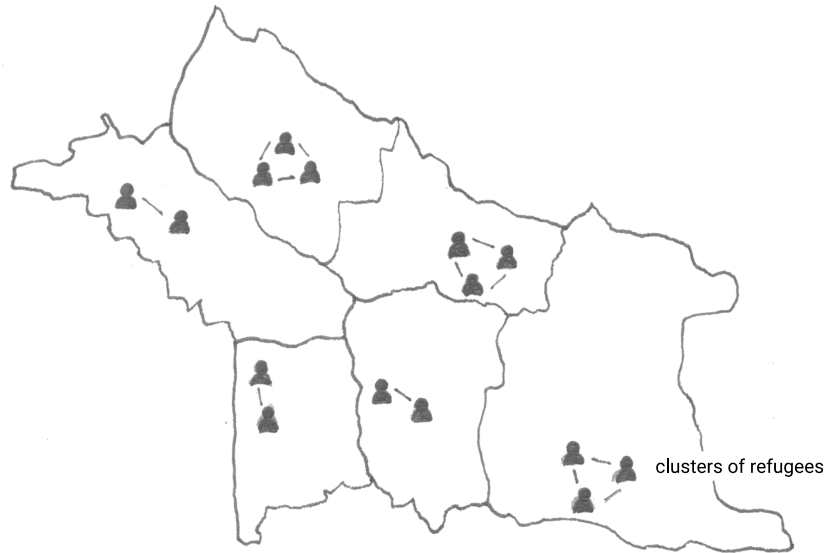


Figure 7: Ethnically Homogenous Networks Diagram

Creating clusters of refugee families in and around the Portland area

Establishing networks among resettled refugees creates supportive reciprocal relationships—*Informal Advocate (5)*.

## **Neighborhood**

### *4 Formalized Outreach*

**Considering the vulnerability of resettled refugees, families lack the political, social and economic resources to acclimate to life in the United States on their own.**

The financial assistance that the United States government provides to resettled refugees is an indispensable part of the integration process but offering social and

cultural services are also beneficial. The “targeted assistance and support of immigrants via language courses, educational sponsors, training mentors, sports clubs and cultural associations, and private and public foundations”<sup>71</sup> that Amber Sayah discusses in the article, “Work as an Engine of Integration,” are key examples of beneficial programs organized by official entities. The RCSP case services, cash assistance and case management services are imperative to refugee families who need to obtain official forms of identification and personal finance accounts. The Awad’s caseworker, Cheri Smith, even assists the family on a day-to-day basis by driving them to Goodwill and Fred Meyer or simply spending time with them as additional support. Non-profit organizations, including the PRSG, focus on providing resettled refugees educational opportunities and life skills training. The PRSG implements an English language program where a volunteer teaches refugee families from the comfort of their own homes. Other entities, like the Rosewood Community Center, host English language courses for the surrounding community. Volunteers from Catholic Charities visit the families to ensure that their living situations are acceptable. The Kalb family receives intermittent visits from volunteers but would benefit from additional support with his disabled daughters. Furthermore, Catholic Charities donated the Christmas tree and toys to the Wasem family during the holidays.

Therefore:

**Non-governmental organizations, non-profit organizations and other types of established assistance programs need to prioritize the implementation of financial support, community events, language acquisition courses, etc. Ensuring**

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<sup>71</sup> Peter Cachola Schmal, Oliver Elser, and Anna Scheuermann, *Making Heimat: Germany, Arrival Country* (Ostfildern: Hatje Cantz, 2016), 112.

**that refugee families have access a variety of support services enhances their financial, cultural and social capacity.**

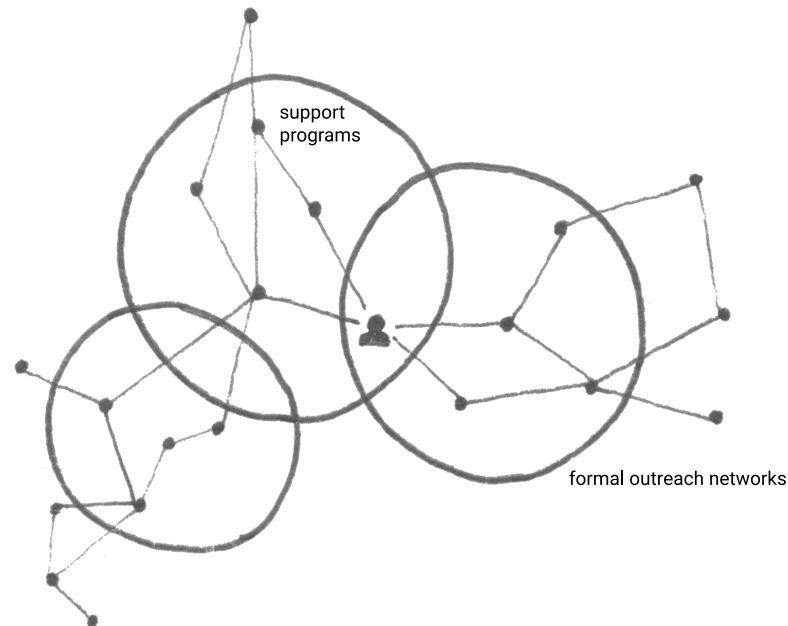


Figure 9: Formalized Outreach Diagram

Providing newcomers with access to formal outreach entities with political, economic and social programs within each network

Despite Cheri Smith’s role as the Awad’s caseworker, they have developed a reciprocal relationship that has enabled the family to obtain basic necessities and an additional sense of reassurance—*Informal Advocate* (5). If community centers, like the Rosewood Community Center, are in an inconvenient location for resettled refugees, the local schools have potential to host formalized outreach events—*Community Schools* (8).

### 5 *Informal Advocate*

**Since formal outreach programs operate at a more collective scale, refugee families often lack individual support for day-to-day or emergency situations.**

Although Cheri Smith shares a formalized relationship with the Awad family and has additional responsibilities as a caseworker, she is considered a member of the family and assists them on a day-to-day basis. Cheri's willingness to support the Awads with daily errands and availability to spend time with them in their home has improved the family's ability to adapt to their new environment. Mohammed Baher's informal relationship with the Egyptian family from Turkey enabled the family to gain financial and social capital in the United States. His support as the family's "guarantor," willingness to allow the couple to borrow his car and assistance with finding a job for Mohammed enabled the family to accumulate enough capital to afford their own apartment and vehicle. The Awad and Wasem also developed a supportive relationship with each other that provides both families with a greater sense of security. Since Iman Awad has obtained her driver's license and will eventually acquire an accessible van to transport her husband, the Awads have potential to further support the Wasem family, who have been in the United States for a shorter duration of time. Even though a volunteer from Catholic Charities visits the Kalb family on occasion, Yasmeen and Joram could benefit from additional informal support. After the interview with the Kalb family, Sarkawt exchanged phone numbers with Joram and offered his assistance in case of emergencies. As a result, Sarkawt and Joram have established a reciprocal relationship that enhances the Kalb family's ability to integrate into American society.

Therefore:

**Develop reoccurring mentor programs or networking events that pair newcomers with other resettled refugees, immigrants and existing residents to establish a reciprocal relationship based on understanding and sympathy. Forging**

**mentorships, business partnerships and personal connections provides an added level of reassurance for newcomers.**

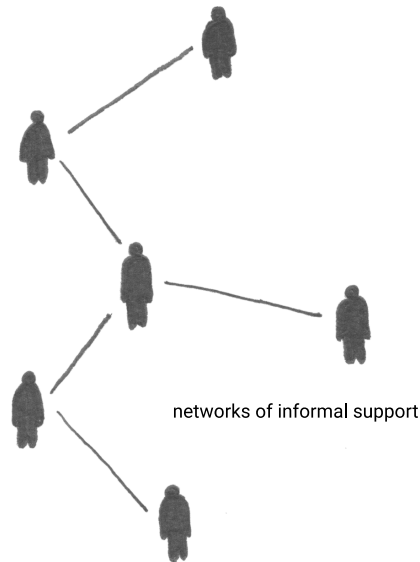


Figure 10: Informal Advocate Diagram

Supporting informal reciprocal relationships through networking opportunities

In some cases, the relationships developed from formalized outreach programs evolve into informal friendships that provide day-to-day support—*Formalized Outreach (4)*. Informal reciprocal relationships often emerge from being in close proximity to other populations in similar situations or with shared identities—*Ethnically Homogenous Clusters (3)*. Informal interactions could also occur at community events or among parents with children attending the same local school—*Community Schools (8)*.

## 6 Affordable Housing

**If the majority of the funding from the government and the family’s supplemental income is insufficient to compensate for the cost of rent, refugees are**



**unable to make long-term investments or attain financial footholds in the United States economy.**

The cost of rent in the United States is a considerable financial burden for resettled refugees. Even with compensation from the government and a supplemental income, the majority of refugee families' salaries are devoted to expenses, especially rental payments. Furthermore, the cost of living and value of basic necessities in the United States are significantly higher compared to Syria. As the Nazari family explained, three months' worth of rent in the United States could purchase property in Syria. The Nazaris blatantly expressed that they are not generating enough income to afford their current single family home in Beaverton. Although the Wasem family is barely able to afford their apartment in Portland for \$1,250 a month, Yara Wasem lacks the financial capacity to deposit money into savings for the future.

Considering the financial limitations of refugees, providing newcomers with the opportunity to be relocated in subsidized housing could mitigate initial monetary pressures. As Stefan Rettich points out in "Regulate. Reduce. Accelerate," the availability of "centrally located, low-cost housing" is limited when the "housing market is tight."<sup>72</sup> Consequently, the majority of affordable housing is located in suburban areas surrounding Portland, including Gresham, Beaverton, Tigard, etc. Depending on the financial need of the specific family, coordinating with the U.S. Department of Housing and Urban Development (HUD) may determine whether or not resettled refugees qualify for low-income housing. If the refugee family is eligible,

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<sup>72</sup> Peter Cachola Schmal, Oliver Elser, and Anna Scheuermann, *Making Heimat: Germany, Arrival Country* (Ostfildern: Hatje Cantz, 2016), 90.

locating them in affordable housing arrangements will reduce the cost of rent and promote their ability to acquire financial capital in the future.

Therefore,

**Low-income options are allocated to resettled refugee families to alleviate the debilitating high costs of rent surrounding the greater Portland area.**

**Alleviating the cost of rent will provide newcomers with more financial flexibility and security.**

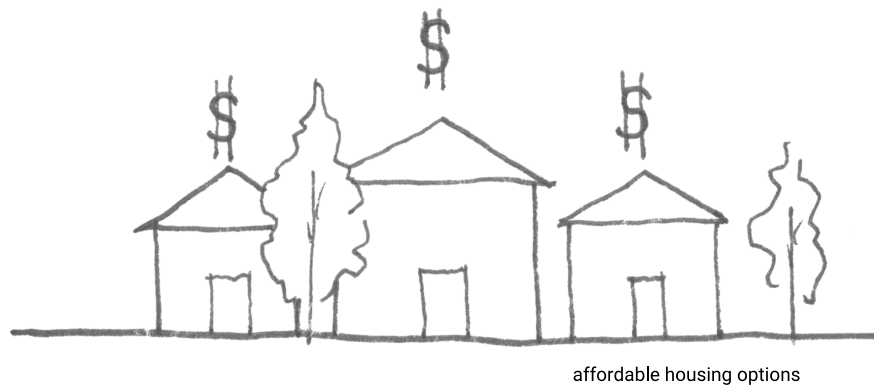


Figure 11: Affordable Housing Diagram

Different types of affordable housing options funded by governmental entities

If affordable housing options are located in suburban areas, neighborhoods with greater connectivity to commercial uses and public transportation should be prioritized—*Suburban Cores (1), Access to Transportation (2), Overlap of Neighborhood Uses (7)*. Situating multiple refugee families in the same affordable areas will create a support system for newcomers—*Ethnically Homogenous Clusters (3)*.

## 7 *Overlap of Neighborhood Uses*

**The separation of residential and commercial uses creates automobile dependent neighborhoods making it difficult for refugee families to access basic amenities and services. The extended distance between the areas where newcomers live and work also deters them from engaging directly in commercial sectors as employees and customers.**

Single-use zoning in suburban areas maintains *urban sprawl* where designated residential zones are extensively separated from commercial zones. Residential zones in suburban areas are characterized by low-density, single-family homes surrounded by private, green lawns and networks of streets that connects the isolated neighborhood to other districts and commercial sectors. Large scale enterprises, including Fred Meyer, Winco, Costco, Goodwill, and Walmart, occupy excessive amounts of land in remote commercial zones that require a vehicle to access. Consequently, retail centers are encompassed by vast parking lots and express highways with limited public transportation options. Despite the limitations of public transportation, the five refugee families prefer large scale retailers due to the affordable prices and immense selection.

However, newcomers benefit from fine-grained urban fabrics where residential and commercial uses are intertwined. Interweaving multiple uses in a concentrated area creates more walk-able neighborhoods and opportunities for small businesses to emerge. As Saunders emphasizes, “the adaptation of urban property for multiple uses—residential, retail light-industrial, and food service”<sup>73</sup> provides newcomers with access to a diverse range of services and entrepreneurial opportunities. During the week, the

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<sup>73</sup> Peter Cachola Schmal, Oliver Elser, and Anna Scheuermann, *Making Heimat: Germany, Arrival Country* (Ostfildern: Hatje Cantz, 2016), 26.

Nazari and Bahar families were able to walk to Safeway to purchase essential items when it was too inconvenient to access even larger retail centers via public transit or a personal vehicle. Yara Wasem was also located in close proximity to commercial uses, which she could utilize in emergencies. Given the land-use constraints in urbanized mixed-use neighborhoods, the majority of commercial uses are small-scale. The small-scale rental spaces and local environment appeal to privately owned business, like the Royal Café owned by Omallah ali Maher. Incorporating small businesses provides refugees with opportunities to engage in the “ethnic” or “niche”<sup>74</sup> economies that Friedrich Heckhman describes in an interview from *Making Heimat*.

Therefore,

**Refugees are resettled in neighborhoods where the residential and commercial uses deliberately overlap. Amenities and services are more accessible to newcomers when multiple building uses are intertwined in a concentrated area. If the new and existing residents in the area are in close proximity to the commercial uses, they will be more likely to contribute to the different types of economies in the area.**

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<sup>74</sup> Peter Cachola Schmal, Oliver Elser, and Anna Scheuermann, *Making Heimat: Germany, Arrival Country* (Ostfildern: Hatje Cantz, 2016), 64.

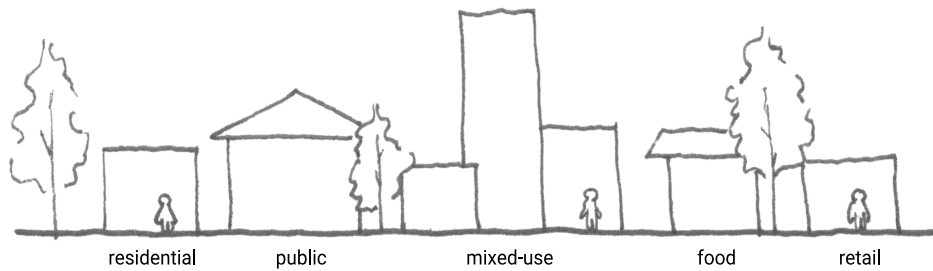


Figure 12: Overlap of Neighborhood Uses Diagram

Combining multiple building uses within a concentrated area

Connecting residents directly to commercial activity and vice versa promotes diversity within the urban or suburban fabric that supports economic activity—*Suburban Cores (1)*. Each mixed-use neighborhood is linked to other areas where residential and commercial uses blend together via networks of public transportation—*Access to Transportation (2)*. Incorporating civic or institutional uses promotes greater variation and economic opportunity within the neighborhood—*Community Schools (8)*. If a refugee family establishes a local, small business in close proximity to other newcomers, both individuals or families may develop an economically supportive relationship—*Ethnically Homogenous Clusters (3)*. The interweaving of residential and commercial activities has potential to liven the streetscape and promote the security of the area—*Defensible Streets (10)*.

## 8 *Community Schools*

**The children of refugee families are learning English, interacting with a diverse group of classmates and adapting to their new environment at school but their parents are not directly included in the process.**

Each of the five families had at least one child in the household. Though the Nazari and Wasem family had a toddler or younger child, the Bahar family was the only one without a child enrolled in public school ranging from early-childhood education through secondary education. Receiving a public education has exposed the children to an American curriculum, which normally consists of science, mathematics, English, social sciences, and physical education. Furthermore, the children are interacting with other American children their own age inside and outside of the classroom. A combination of the formal and informal educational opportunities have directly or indirectly introduced the children to American cultural norms and societal structures. The interactions between Sarkawt and the Nazari children after the formal interview demonstrated the children's English abilities. When asked about their favorite subjects in school, the majority of the children were able to respond fluidly in English.

Despite the children's progress in school, the parents are largely uninvolved and only attend school for parent-teacher conferences, usually with an interpreter. However, Yara Wasem mentioned that the teachers and volunteers at her children's school have encouraged her to become more involved in its activities. The participation of parents in school-related activities promotes the integration of refugee families as a whole and benefits public schools with limited funding. However, the parents of refugee families are either hesitant to engage in school activities because of language and cultural barriers or unable to participate due to their busy schedules. If public schools served as a broader entity for the surrounding communities, parents may be more inclined to participate in school-related events. After hours or on the weekends, English lessons, life skills training, financial workshops, etc. could be hosted at the school for all ages to

promote attendance from the refugee community. Mechthild Küpper’s description of the amenities provided in the renovated Rütli High School, including a “vocational workshop, a community center with a parents’ center, an educational workshop, a neighborhood coordination office, a youth welfare office, a dentistry service,”<sup>75</sup> serves as an example of what a community centered school might offer. Establishing local, public schools as inclusive gathering spaces benefits both the existing residents and refugee families.

Therefore:

**The local schools serve as a nucleus for community interaction among resettled refugees and the existing residents living in the neighborhood by hosting inclusive events outside of its regular educational functions.**

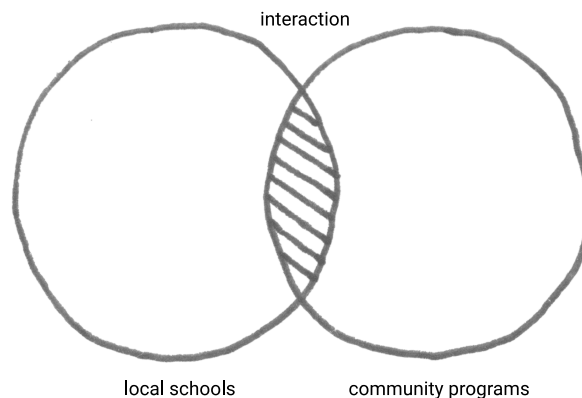


Figure 13: Community Schools Diagram

Hosting events or programs at local schools promotes community interaction

Locating refugees in close proximity to educational institutional as well as commercial uses, creates more opportunities for newcomers to engage in the existing

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<sup>75</sup> Peter Cachola Schmal, Oliver Elser, and Anna Scheuermann, *Making Heimat: Germany, Arrival Country* (Ostfildern: Hatje Cantz, 2016), 238.

political, social and economic conditions in a specific area—*Overlap of Neighborhood Uses* (7). The events at local schools could be organized by formal entities, including non-profit organizations or outreach programs—*Formalized Outreach* (4). Establishing public schools as a community center could also provide opportunities for informal interactions with other refugees, immigrants and existing residents—*Informal Advocate* (5).

## **Exterior**

### *9 Intermediary Green Space*

**When apartment complexes, townhomes or single-family homes are positioned directly on vehicular-oriented main streets or parking strips, the residents inside the home are subjected to noise from traffic and visual exchanges with passersby.**

Although the exterior of the dwelling is exposed to the public realm of the street, specific outdoor spaces surrounding the house are extensions of the home's internal private spheres. In single-family homes, a fenced backyard is still considered a private space reserved for family members, close friends and guests. Green spaces located towards the entry of the home mediate the transition between the public street and the private residence. The distinction between public and private surrounding single-family suburban homes is uncertain since the grassy lawns leading towards the entry of the house are extensive, monotonous spaces that lack visual boundaries. Green space surrounding apartment complexes or townhouses are even more ambiguous areas since they are shared by multiple residences. In *The Death and Life of Great American Cities*,



Jane Jacobs emphasizes that there “must be a clear demarcation between what is public space and what is private space. Public and private spaces cannot ooze into each other as they do typically in suburban settings or in projects.”<sup>76</sup>

Utilizing defined green outdoor spaces to mediate the transition from the street to the dwelling further indicates the zones that are available for use by the public and the zones that are reserved for the residents. The green space surrounding Mahmoud Awad’s townhouse serves as a buffer from the busy main street at the end of the property and the surrounding apartment complexes. In addition, the Awad family engages with the outdoor space visually and acoustically from the interior of their home by viewing the landscaping and listening to the sounds of nature. Furthermore, the green space outside of the Bahar family’s residence separates the apartment complex from the parking spaces designated for tenants. When selecting their previous apartment in Hillsboro, Amena Bahar selected the unit because she valued its connection to the outdoor landscape. Utilizing green space to emphasize the boundaries between public and private while providing the residents with a sensory experience strengthens refugee families’ comfortability and connection with their new environment.

Therefore:

**Residents are provided with a spatially defined private or semi-private outdoor area to mediate the public realm on the exterior of the dwelling from the private realm on the interior of the dwelling. The green spaces are substantial in size to encourage local residents to spend time outdoors and differentiated through landscaping with appropriate trees and plants for the climate.**

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<sup>76</sup> Jane Jacobs, *The Death and Life of Great American Cities* (New York, NY: Random House, 1961), 35.

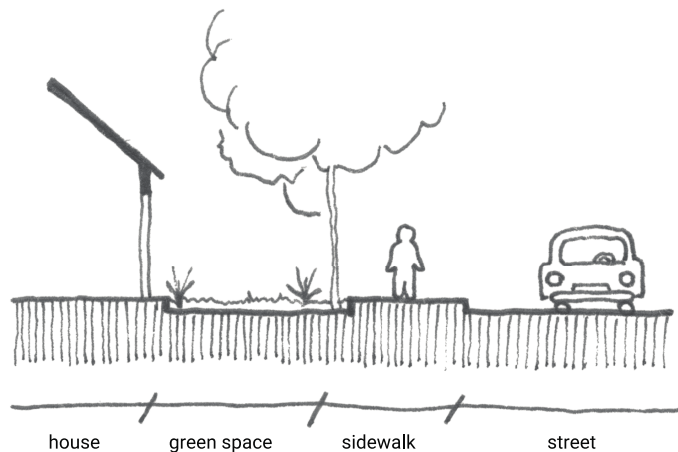


Figure 14: Intermediary Green Space Diagram

Utilize green space to create a buffer between the private realm of the home and the public realms of the sidewalk and street

Enforcing the separation between public and private areas using green spaces provides residents with protection from high levels of human activity while maintaining visual connection to the street—*Defensible Street* (10).

### 10 *Defensible Street*

**Neglected streetscapes cease to be secure places for newcomers when local residents are unable to informally monitor the public streets and spaces around them.**

Deserted urban or suburban spaces that are isolated from view are more susceptible to delinquency and crime. Though the objective of law enforcement officials is to reduce threats to local neighbors, Jane Jacobs argument for “eyes on the street” suggests that active streetscapes with a variety of visitors and residents cultivates a system of informal surveillance that provides further protection.<sup>77</sup> The hostility, drug

<sup>77</sup> Jane Jacobs, *The Death and Life of Great American Cities* (New York, NY: Random House, 1961), 35.

activity and alcohol related incidents that the Nazaris, Awads and Bahars experienced could be mitigated by strengthening the connection between the residential buildings and the street. The majority of the refugee families' apartment units and townhouses are accessed via an isolated street that diverge from a main avenue. Furthermore, the streetscapes are undeveloped, disconnected from the surrounding buildings and primarily serve vehicular circulation rather than pedestrians or bikes. Consequently, the urban or suburban streets surrounding the refugee families' residences are uninhabited and neglected spaces, which hinder the local residents' abilities to monitor the streets around them.

The informal vigilance is also achieved through the integration of residential and commercial uses in a concentrated area. According to Jacobs, the small businesses and public uses reinforce a constant flow of people on the street throughout the day. The fine-grain mixed-use in neighborhoods encourages people to engage in the neighborhood economy and monitor the activities on the street. The refugee families' apartment complexes, townhouse and single-family home are distinctly separated from commercial uses. Since the only individuals engaging with the street are other residents or visitors, the streets are inconsistently monitored throughout the day.

Therefore:

**Orienting buildings along urban or suburban streetscapes and enforcing mixed-use zoning promotes high-levels of human activity. Promoting the livelihood of streets reinforces informal surveillance by visitors, residents and small business owners, which creates a greater sense of security for newcomers.**

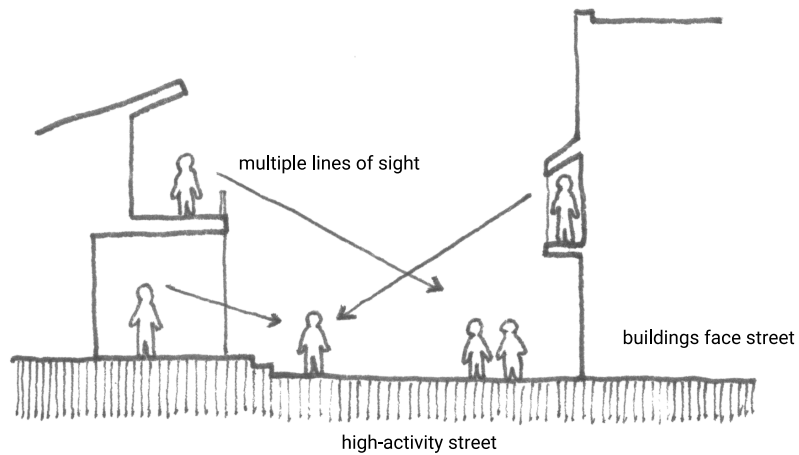


Figure 15: Defensible Street Diagram

Promoting “eyes on the street” by orienting buildings toward the street and encouraging high-activity

Establishing mixed-use zoning for the neighborhood scale introduces small businesses and public uses to the urban or suburban fabric, which encourages informal surveillance in the neighborhood throughout the day—*Overlap of Neighborhood Uses* (7). Though the neighborhood buildings should connect to the street and promote the ability of visitors, residents and small business owners to monitor the daily activity, there needs to be a clear delineation between the public realm of the street and the private realm of the home—*Intermediary Green Space* (10).

## Interior

### *11 Formal Guest Room*

**Considering the importance of privacy in Middle Eastern homes, the singular living room in traditional American homes is insufficient for entertaining formal guests.**

The open-concept layout and other configurations that combine multiple functions within a singular room disrupt the gradient from public to private spaces within the home. Merging one or more activities in a single space creates visual, acoustical and olfactory connections that are undesirable for resettled refugees. Refugee families are accustomed to Middle Eastern homes that differentiate formal and casual spaces to achieve multiple conditions of privacy. The primary concern is separating public spaces to formally receive guests from the most private spaces within the home, which is evocative of the “Intimacy Gradient” that Christopher Alexander describes in *Houses Generated by Patterns*, which emphasizes the strict separation between the formal sala, or parlor, and family room.<sup>78</sup> Unlike typical American homes, the living room is recognized as a private room reserved for family members or close friends in Middle Eastern homes. Accordingly, guests are formally received and entertained in a separate room near the entry of the house.

Although the Nazari family claimed that the two living areas in their single-family home in Beaverton were considered formal spaces, the room closer to the entry of the house was being used differently than the living space connecting to the kitchen. The clean clothes piled on the sofa and children’s toys on the floor suggested that the latter room was primarily used by family members rather than guests. The Awad family emphasized the importance of orienting the formal guest room toward the exterior of the home to reduce the visitors’ exposure to the interior of the home. Furthermore, the formal guest room is detached visually, acoustically and olfactorily from the rest of the house to prevent visitors from intruding on the privacy of the family. Locating a

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<sup>78</sup> Christopher Alexander, *Houses Generated By Patterns* (Berkeley, CA: Center for Environmental Structure, 1969), 128-9.

bathroom in close proximity to the formal guest room further maintains the gradient from public to private.

Therefore,

**The formal guest room is located toward the entry of the house and is isolated from the kitchen and bedrooms. The bathroom is accessible from the guest room to prevent formal visitors from promenading through the private areas of the house.**

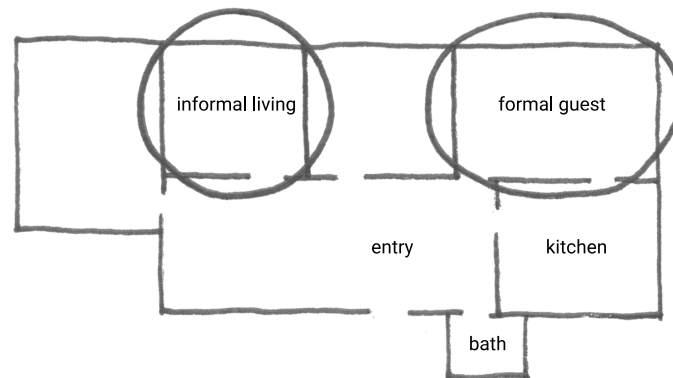


Figure 16: Formal Guest Room Diagram

Distinct designation between the formal guest room and informal living space (based on Ahmed's home in Syria)

Since visitors are traditionally served tea and coffee in the formal guest room, it shares a close relationship with the kitchen even though both rooms are visual, acoustical and olfactory separated—*Enclosed Kitchen (12)*. Locating the formal guest room near the exterior of the home with a connection to the entry establishes a fluid circulation from room to room throughout the house—*Permeable Rooms (13)*. Ensuring that the width of the door openings and sizing of the bathroom are accessible for

disabled individuals is another design consideration within the home—*Accessible Spaces (14)*.

## *12 Enclosed Kitchen*

**The popular open-concept layout in the United States is undesirable to resettled refugees because it exposes the kitchen visually, acoustically and olfactorily to the rest of the house.**

In the United States, the kitchen is considered a social space for receiving and hosting guests. According to Zulkeplee Othman, Rosemary Aird and Laurie Buys in *Privacy, modesty, hospitality and the design of Muslim homes: A literature review*, kitchens in traditional Middle Eastern homes are gendered space reserved for female family members rather than males or visitors.<sup>79</sup> Being able to observe, hear or smell food preparation in the kitchen is undesirable for refugee families, especially if they are entertaining formal guests. The Awad and Bahar families' previous homes in Syria possessed kitchens that were physically isolated from the formal guest room and other areas of the house to provide privacy for the women who were cooking. However, all five of the families were living in apartments, townhouses or single-family homes with exposed kitchens. The Nazaris, Awads and Bahars have partially exposed kitchen layouts with one or two walls visually separating them from the living areas, whereas the Wasems' and Kalbs' kitchens are entirely combined with the living and dining rooms.

Therefore,

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<sup>79</sup> Zulkeplee Othman, Rosemary Aird, and Laurie Buys, "Privacy, Modesty, Hospitality, and the Design of Muslim Homes: A Literature Review," *Frontiers of Architectural Research* 4, no. 1 (2015): accessed April 10, 2018, doi:10.1016/j.foar.2014.12.001, 16.

**The kitchen is separated from the rest of the house to maintain visual, acoustical and olfactory privacy. Enclosing the kitchen prevents guests from observing the messiness of food preparation and provides female family members with domestic privacy.**



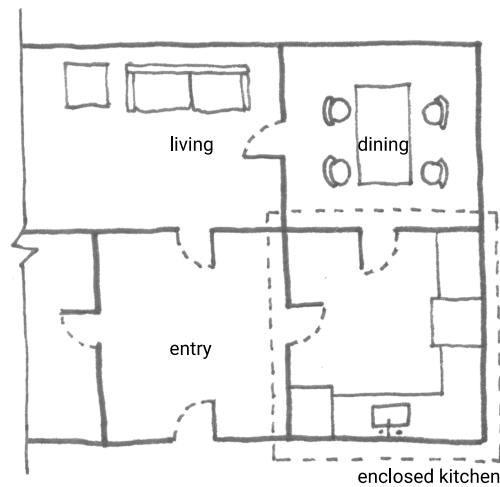


Figure 17: Enclosed Kitchen Diagram

Isolate the kitchen from other spheres of the home while maintaining significant adjacencies

Despite the separation between the kitchen and formal guest room, creating adjacencies between the two rooms facilitates the receiving and entertaining of visitors—*Formal Guest Room (11)*. The adjacencies created by the relationship between the kitchen and formal guest room will maintain the flow of rooms in the home—*Permeable Rooms (13)*.

### 13 Permeable Rooms

**Although connecting a sequence of rooms linearly via a corridor is an economical approach, it is frequently a dark, narrow part of the house and usually ends abruptly at a bedroom door.**

Establishing a sequence of circulation throughout the house creates a hierarchy of spaces and influences the relationships between rooms. Although the configuration of the public spaces in the Nazari family’s suburban home flow seamlessly from one room to another, the entry of the house leads directly to a corridor that connects to the three

bedrooms and one bathroom. The circulation of the Awad family's previous residence in Syria transitioned from room to room creating a fluid sequence of significant gathering spaces to more exclusive spaces for family members. Unlike the dwelling in Syria, the Awad's current apartment transitions from the public living room, dining room and kitchen to the private bedrooms via a narrow corridor, which the family describes as "depressing." The bedrooms in the Wasem, Bahar and Kalb families' apartment units are also connected by a long corridor.

Although corridors are efficient solution that connect multiple rooms throughout the house, they lack access to daylight since they are surrounded by rooms on three sides. Consequently, corridors are dark, unoccupied spaces that fail to create a meaningful sequence of rooms throughout the house. Utilizing a central hall, like the configuration that Ahmed describes in his interview with Howard Davis, connects both public and private spaces and celebrates the significance of each room. Rather than entering directly into a public room, usually the living room, the central hall acts as a transitional space. The central hall serves as a radial pivot point in which rooms are connected in a fluid manner and each space has access to sunlight.

Therefore,

**Utilizing a central hall as the interface between the entry to the outside realm and the rest of the house articulates a more responsive circulation sequence. The central hall connects to both public and private rooms while ensuring that each room has access to natural daylight.**

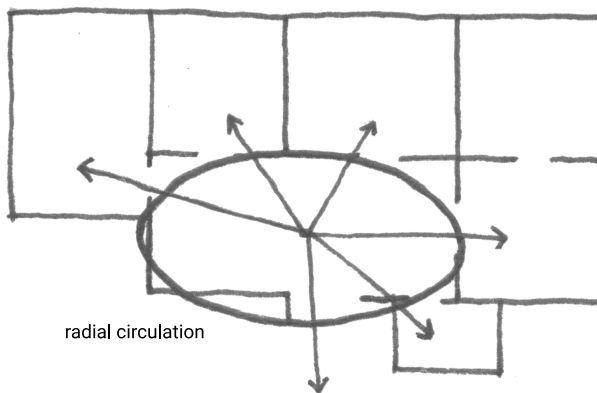


Figure 18: Permeable Rooms Diagram

Central rooms or entry points create a fluid circulation throughout the home (based on Ahmed's home in Syria)

The central hall enforces the separation between public and private spaces by creating a transition space that receives formal visitors and serves family members — *Formal Guest Room (11)*. The central hall connects the formal guest room and kitchen while maintaining the separation between both rooms—*Enclosed Kitchen (12)*.

#### 14 Accessible Spaces

**If a refugee family is located in an upper apartment or townhouse unit, they require access to an elevator or ramp. Within the home, disabled individuals require a minimum amount of space to fluidly navigate the interior rooms, especially in the bathroom.**

The functionality of a house is compromised if its organization and design do not accommodate disabled family members. The interior configuration of the home exacerbates the physical barriers of handicapped people when the dwelling is not accessible, possesses narrow openings or incorporates fixtures that are not sized

appropriately. In response to Mahmoud Awad's physical disability, the family has consistently been located on the ground floor of apartment complexes or located in one-story townhouses like their current residence. Considering Fatima Wasem's elderly age and Yara's role as her caretaker, accessibility could become an issue for the family in the future, especially since they are located on the third floor of their apartment complex in Portland. Even though the Kalb family's apartment unit is located on the ground floor, the interior configuration of the dwelling has limited the family's freedom in the home. The widths of openings are too narrow to accommodate the two disabled children's electric wheel chairs, which has forced Joram Kalb to physically carry his children throughout the house or to the van for transport. Furthermore, the family is limited to a single bathroom for their family of seven, which connects to Alexander's pattern, "Two Compartment Bathroom," which recommends that the toilet is separated from the sink and shower to facilitate "major queuing problems in the morning."<sup>80</sup> The dimensions of the Kalb family's singular bathroom are also too narrow and make it difficult for Joram to navigate while holding one of his daughters.

The dwelling no longer serves its function when it takes additional effort for residents to live in it. Although the American with Disabilities Act (ADA) "prohibits discrimination against individuals with disabilities in all areas of public life, including jobs, schools, transportation, and all public and private places that are open to the general public,"<sup>81</sup> the design standards for ADA accessible spaces eliminate common challenges that disabled refugees are facing in their residential homes. The design

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<sup>80</sup> Christopher Alexander, *Houses Generated By Patterns* (Berkeley, CA: Center for Environmental Structure, 1969), 164.

<sup>81</sup> "What Is the Americans with Disabilities Act (ADA)?" ADA National Network, April 30, 2018, , accessed April 27, 2018, <https://adata.org/learn-about-ada>.

standards promote accessibility by establishing minimum guidelines for the slopes of ramps, width of door openings, amount of space needed to turn around in a wheel chair, bathroom configurations, etc. Locating resettled refugees in accessible homes or adapting their current house to comply with ADA standards will improve the families' ability to live comfortably.

Therefore,

**Resettled refugees with disabled family members are located on the ground floor of apartment complexes and townhomes or are provided with an accessible ramp with a maximum slope of 1:12, which complies with the American with Disabilities Act (ADA). By ADA standards, the minimum width of door openings is thirty-two inches to accommodate the width of a wheel chair. Furthermore, the bathroom configuration accommodates the sixty-inch minimum turning radius of a wheel chair.**

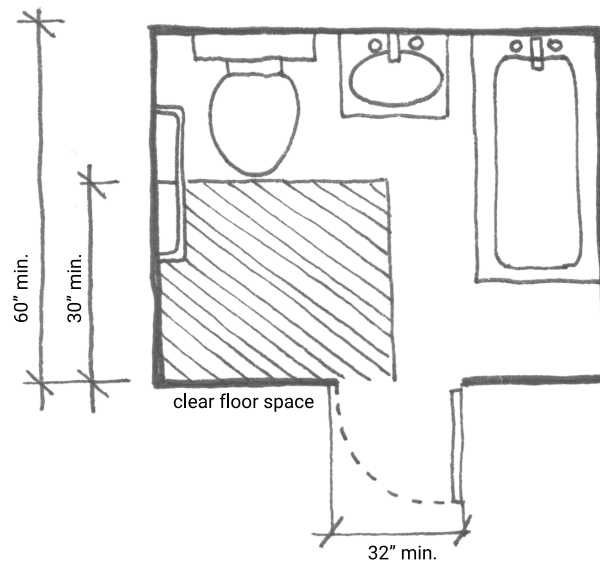


Figure 19: Accessible Spaces Diagram

Consider minimum door widths and minimum dimensions to accommodate the turning radius of a wheel chair

The medical insurance and health plans refugee families are provided promote their ability to access necessary resources outside of the home, including means of transportation—*Formalized Outreach (4)*. Eliminating the narrow corridors in houses strengthens the family members’ ability to navigate the interior comfortably; however, the width of openings should still be deliberately designed to accommodate wheel chairs or other kinds of disabilities—*Permeable Rooms (13)*.

### 15 Acoustical Privacy

**The inexpensive wood frame construction used in apartments and townhouses results in thin walls and floors, which fail to reduce the transmission of noise and sound on the exterior and interior of the dwelling.**

The exterior and interior spaces of the dwelling are affected by the transmission of sound. Othman, Aird and Buys argue that the primary acoustical concerns are

managing “sound transmission and vibration from the outside into the internal domain or from one internal room or space to another.”<sup>82</sup> Traffic, construction, neighbors, etc. are sources of exterior noise that influence the interior atmosphere of the home while conversations, music, television, etc. are sources of noise that impact the comfortability among family members. The different sources of acoustical disturbances is more prominent in densely populated urban areas, which is why the Nazari family appreciates the solitude of their suburban neighborhood in Beaverton. The Bahar family has experienced the repercussions of excessive sound transmission within their apartment complex. The elderly neighbors upstairs are constantly complaining about the noise from the squeaky closets and Amena and Mohammed’s younger son. The couple attributes the lack of sound absorption between apartment units to the wood frame construction frequently used in the Pacific Northwest. In comparison to the thick concrete masonry used for residential construction in Syria, the sound absorption of the party walls, floor plates and ceilings in American apartments, townhouses or single-family homes is inadequate.

The attributes of existing buildings can be improved by adding materials with absorptive properties to the wall assemblies. For new construction, the physical configuration of the disruption of excess sound transmission can be mitigated by locating public rooms along both sides of party walls to isolate the sources of noise to strictly public zones, which leaves the private rooms of the house undisturbed. Creating a gradient of public to private rooms where public rooms are directed towards the

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<sup>82</sup> Zulkeplee Othman, Rosemary Aird, and Laurie Buys, “Privacy, Modesty, Hospitality, and the Design of Muslim Homes: A Literature Review,” *Frontiers of Architectural Research* 4, no. 1 (2015): accessed April 10, 2018, doi:10.1016/j.foar.2014.12.001, 17.

primary sources of external noise and private rooms are farther from the street also reduces the impact of noise within the home. Achieving acoustical privacy for resettled refugees influences the relationships they develop with their surrounding neighborhood and the experiences of the visitors, friends and family members inside of the house.

Therefore,

**In existing buildings, employ strategies to reduce the amount of sound absorption where possible, especially between party walls and floor plates. When designing for new construction, consciously consider the locations of party walls to reduce noise in between units and create a gradient of interior public to private rooms.**

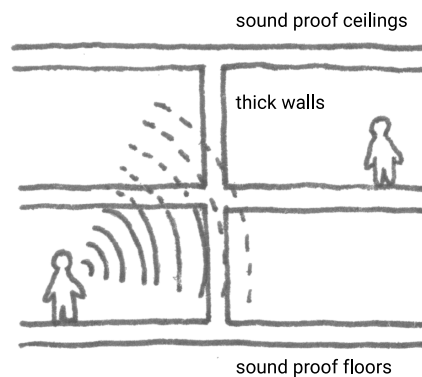


Figure 20: Acoustical Privacy Diagram

Adjust the materiality and construction of the home to prevent the transmission of unwanted sound

Creating a buffer zone of green space between the public street and private realm of the home further reduces the amount of external noise that is transmitted into the home—*Intermediary Green Space (10)*. The fluid transition from public spaces to private spaces achieved by the central hall isolates the amount of exposure to noise to more public rooms rather than the private bedrooms—*Permeable Rooms (13)*.



## Conclusion

Though the fifteen prototype patterns address multiple scales from the greater community to the interior of the dwelling, the patterns are deeply intertwined and create networks of resources meant to establish a supportive built environment for resettled refugees. When discussing how to utilize the pattern language, Alexander explains, “The way to use the language depends very much on its scale. Patterns dealing with towns can only be implemented gradually, by grass roots action; patterns for a building can be built up in your mind, and marked on the ground.”<sup>83</sup> The prototype pattern language consists of issues that can be addressed both gradually over time and immediately depending on the constraints of the resettlement process.

The research for refugee housing is a resource that can be utilized by designers, community organizations and government entities to gain a better understanding of how resettled refugees are adapting to life in the United States. The overall objective of the prototype pattern language has been to address Schmal, Esler and Schuermann’s question from *Making Heimat*, “How can people who have left their familiar environment settled and be ‘at home’?” within the specific context of Portland, Oregon.<sup>84</sup> Considering the current political climate that establishes an “us” versus “them” mentality, creating an inclusive, supportive and responsive environment is more important than ever. Reconciling the disconnect between refugees and their new living environments in Portland will require more community engagement and new approaches towards the resettlement process.

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<sup>83</sup> Christopher Alexander, Sara Ishikawa, and Murray Silverstein, *A Pattern Language: Towns, Buildings, Construction* (New York: Oxford University Press, 1977), x.

<sup>84</sup> Peter Cachola Schmal, Oliver Elser, and Anna Scheuermann, *Making Heimat: Germany, Arrival Country* (Ostfildern: Hatje Cantz, 2016), 12.

## **Further Investigation**

The fifteen patterns primarily reflect the information gathered throughout the interview process. The existing literature review introduced multiple topics that were not addressed during the five interviews with the refugee families. The subject matter was either too sensitive for me to address or did not apply directly to the refugee family. Two primary patterns, *Religious Outreach* and *Flexible Ground Floor/Shop House* would be useful to investigate further in future research on refugee housing.

### *Religious Outreach*

The initial list of potential patterns considered *Public Support*, which prompted the finalized pattern, *Formalized Outreach*. The two patterns neglected to consider the role of the Muslim community in the integration process. Mosques could be supportive networks that provide additional support to the refugee community. Given the limitations of the existing literature and initial hesitancy of the interview participants, investigating sources of religious outreach was not a part of the interview process. However, researching the impact of the Muslim community in Portland and Beaverton in the future has potential to contribute to the prototype pattern language.

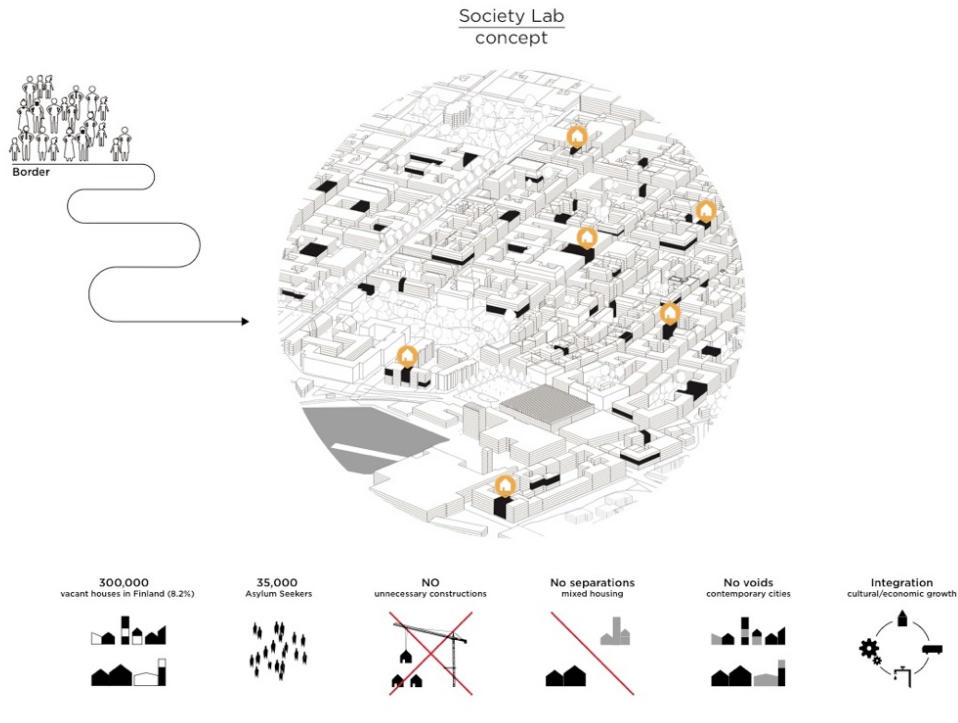
### *Flexible Ground Floor/Shop House*

Living in an apartment, townhouse or low-density home with access to a flexible ground floor was not a feasible option for any of the refugee families. Since none of the participants were living in such a condition, it was difficult to determine how valuable the shop/house configuration would be for refugees. If refugees are struggling to pay their current rent, it would be even more difficult for them to compensate for the

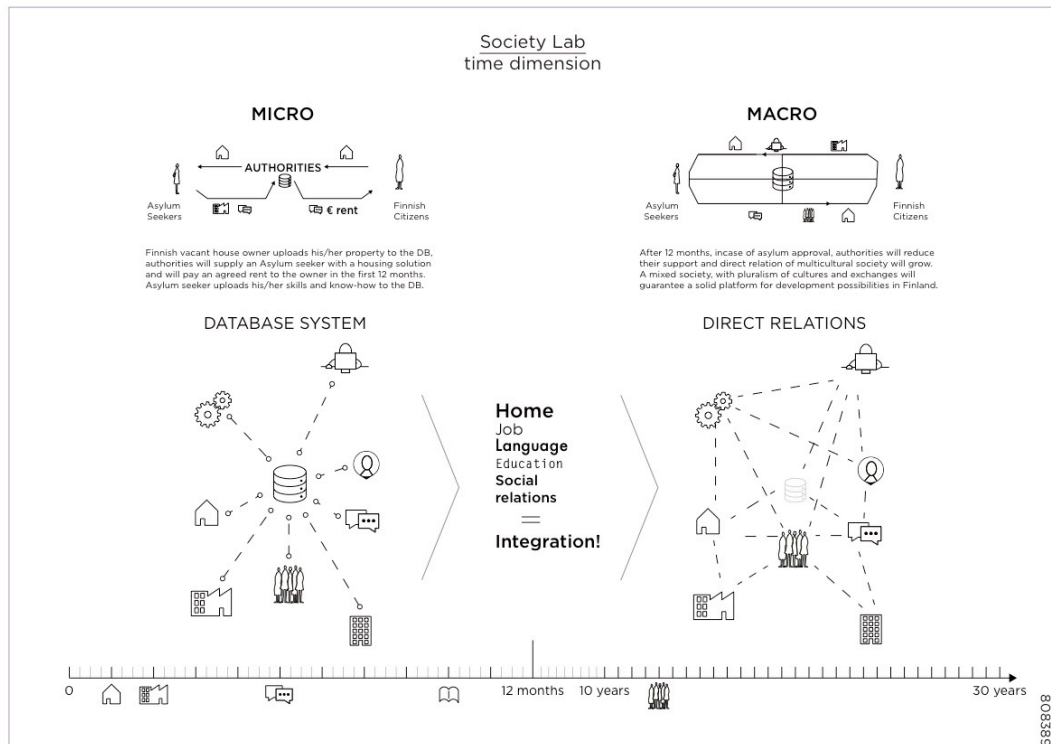
additional space or manage renting it to someone else. Still, newcomers, like Mohammed Baher and his previous experience as a self-employed artist, could benefit from living and working in the same building. A flexible ground floor would enabled Mohammed to conduct business with the public without having to rent an additional space or commute to work at a separate location and leave his family at home.

# Appendix A – Case Studies

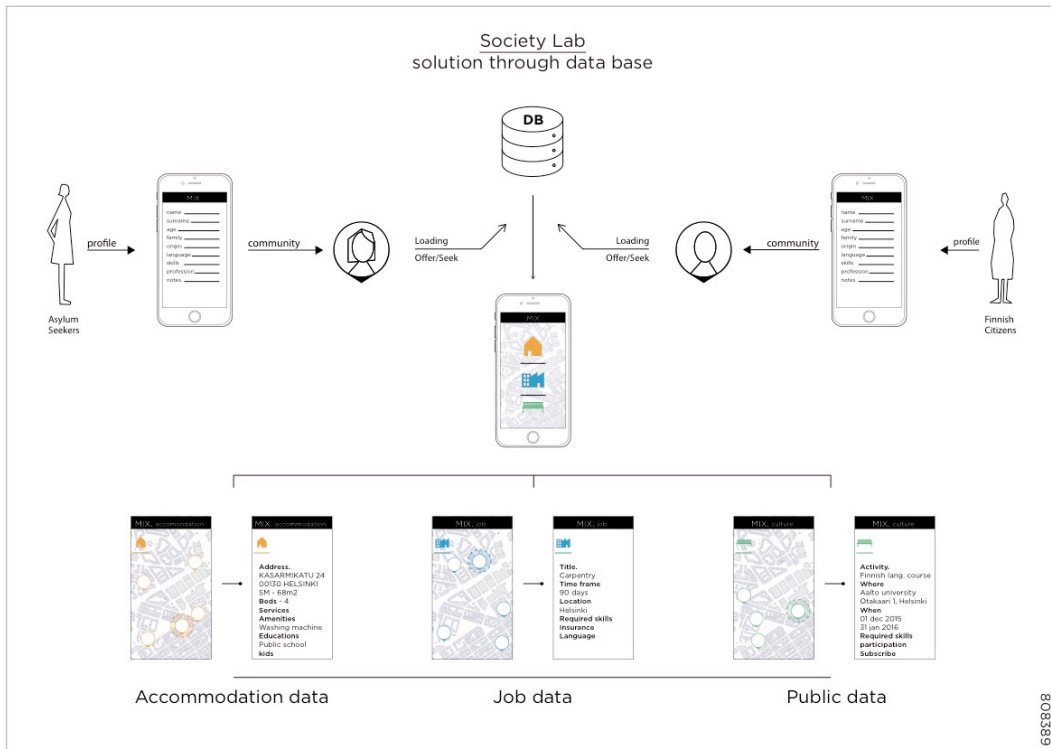
## 2015 “From Border to Home” competition entry by Society Lab

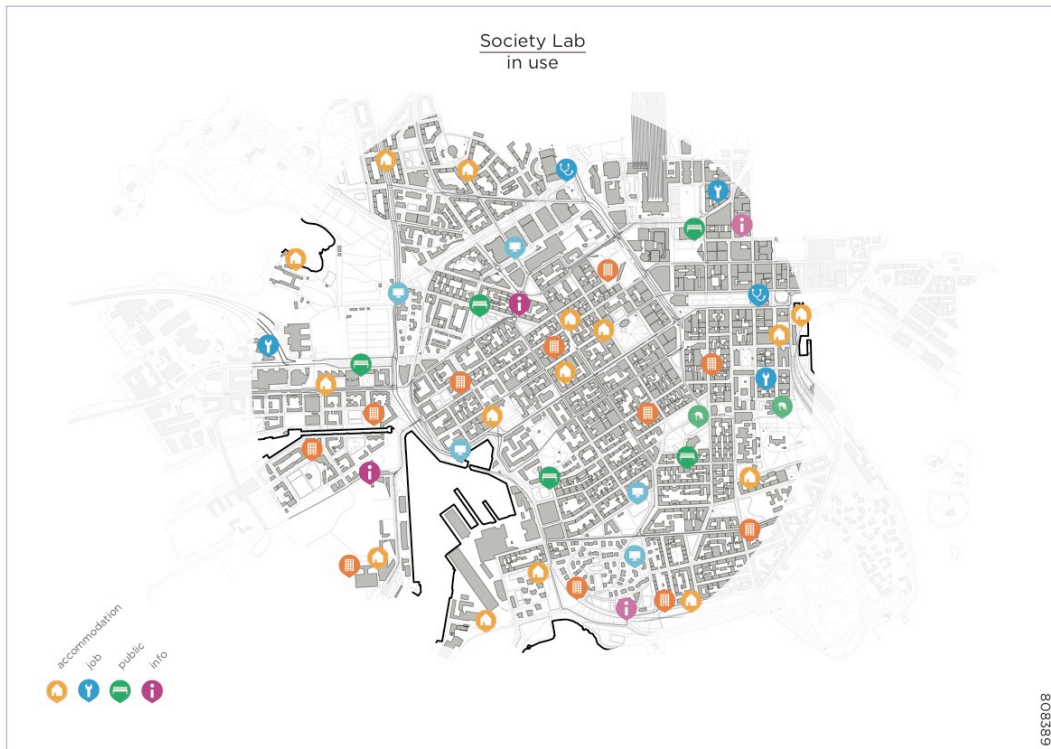


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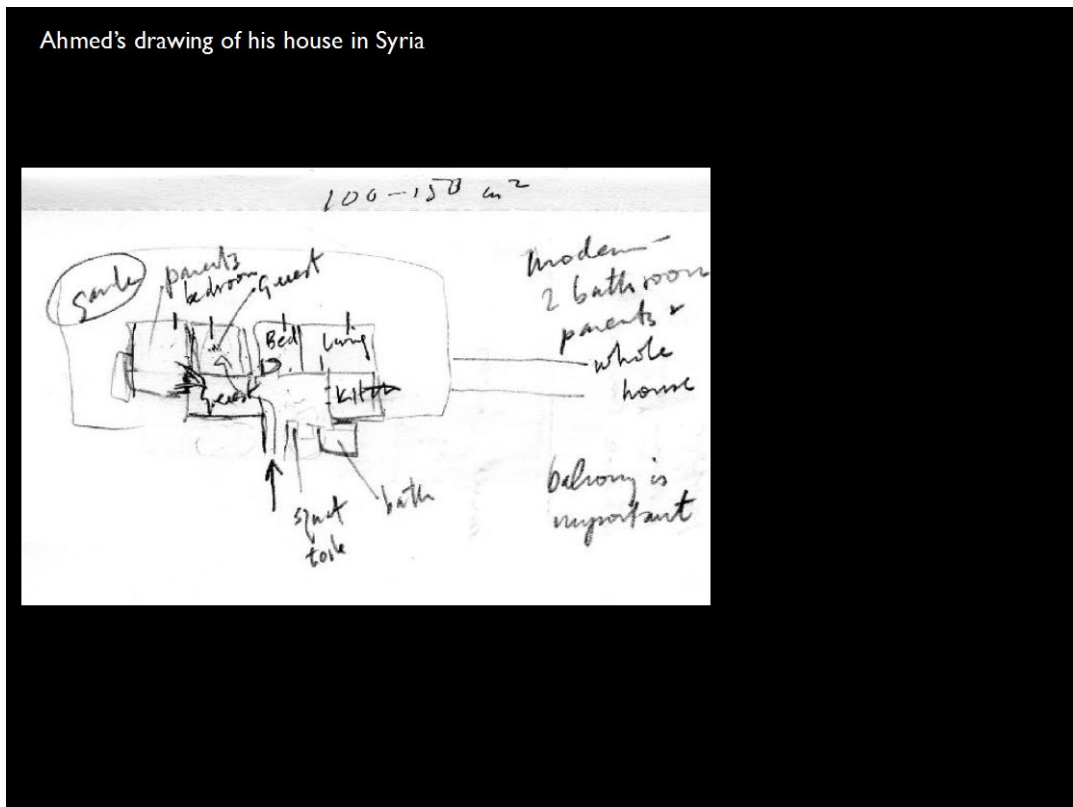


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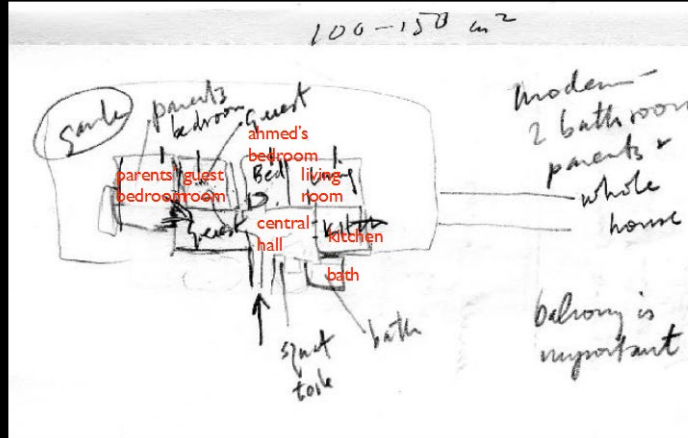




*Interview with Ahmed conducted by Howard Davis*



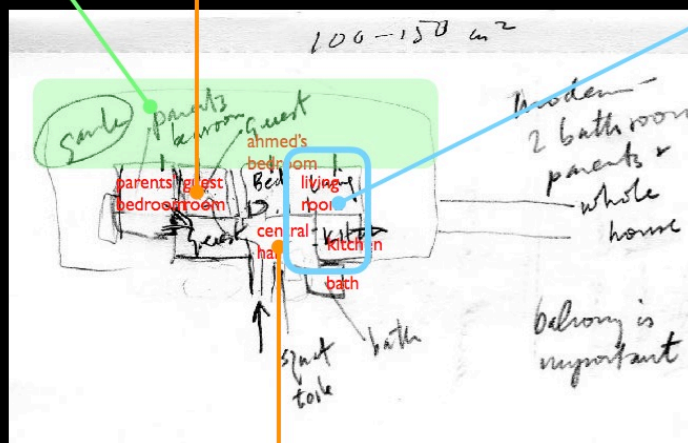
Ahmed's drawing of his house in Syria



Ahmed's drawing of his house in Syria

Garden/balcony is important

Guest room is placed where important guests are received and entertained  
 Guest room is separate from living room



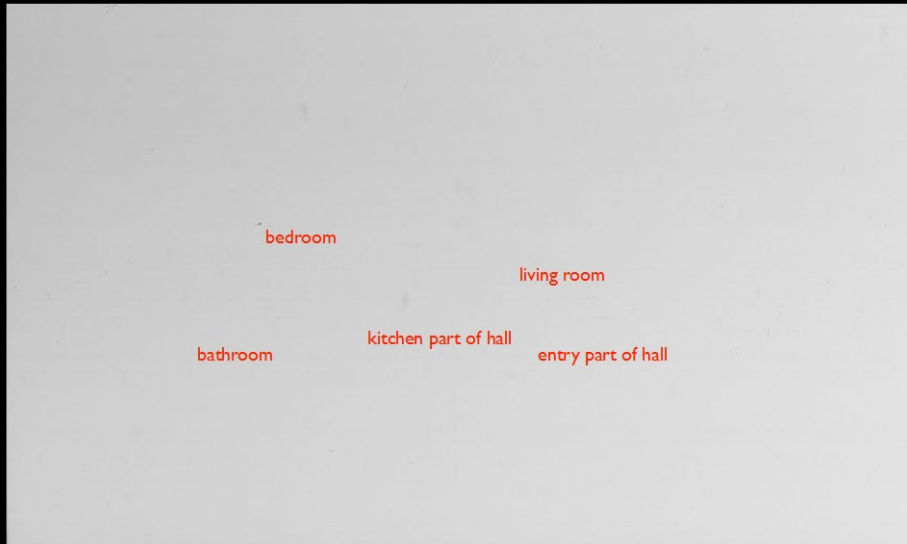
Central hall allows access to all rooms.

In modern houses, kitchen and living room may be one room. These are for family and guests who are close to the family. But the separation is still important for people concerned about kitchen smells.

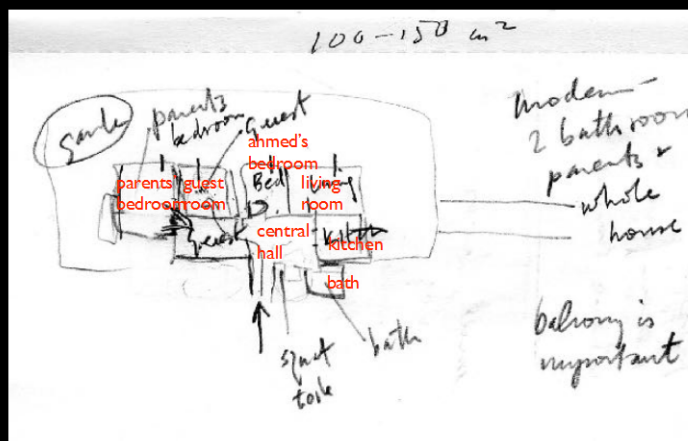
In Syria, preference for western façade, where sun sets (sometimes with view of the Mediterranean)

Toilet is in separate room from bath.

Ahmed's drawing of his house in Essen, shared with his wife and child



Ahmed's drawing of his house in Syria



TENTATIVE LIST OF REQUIREMENTS

1. Importance of west façade
2. Central hall accesses all rooms
3. Guest room for important guests, separate from living room
4. Living room for family and for guests close to the family
5. Living room and kitchen may be combined
6. Importance of balcony or garden
7. Toilet in separate room from bath. Modern houses may have two baths

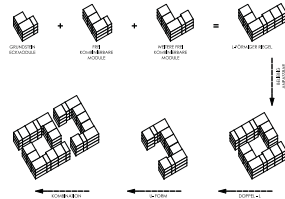


# Container Villages by Architekten BDA Feldschnieders + Kisters

DEUTSCHES ARCHITEKTURMUSEUM – CALL FOR PROJECTS: REFUGEE HOUSING PROJECTS – 23 FEB 2016

**NEW BUILDINGS / COMPLETED**

## CONTAINER VILLAGES, BREMEN



Concept



Grohn: Corridor / Photo: © Feldschnieders + Kister Architekten



Grohn: Site plan



### NUMBER OF RESIDENTS / MODULAR UNITS

Hemelingen: 240 residents / 6 buildings

Überseetor: 180 residents / 8 buildings

Grohn: 162 residents / 7 buildings

### RESIDENTS

Asylum seekers

### DATE OF COMPLETION / LIFESPAN

Date of completion: Hemelingen: January 2016;

Überseetor: December 2015; Grohn: November 2015

Lifespan: 5 years

### COMMISSIONED BY

Bremen Senator for Social Affairs, Children, Adolescents, and Women (4 locations)

### ARCHITECT

Architekten BDA Feldschnieders + Kisters, Bremen

### CONSTRUCTION FIRM

Bremen, Hemelingen, and Grohn: Firma Algeco GmbH; Überseetor: Firma G. Ungrund GmbH

### BUILDING METHOD

Containers: Steel frame & metal (non-standard dimensions – 3 x 3 x 9 m)

### CONSTRUCTION COSTS

Approx. 1,100 Euro/m<sup>2</sup> GFA

### LIVING SPACE PER PERSON

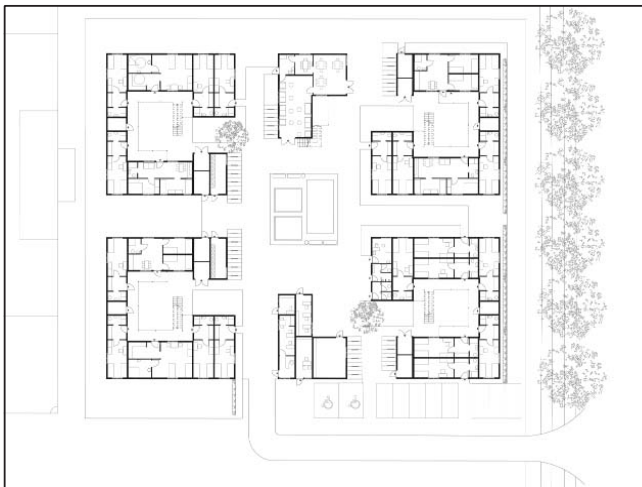
Approx. 12.5 m<sup>2</sup>/person (not including general management areas / common spaces)



Hemmingen: Interior courtyard / Photo: © Feldschnieders + Kister



Überseedorf: Facility / Photo: © Feldschnieders + Kister Architekten



Hemmingen: Floor plan, ground level

**DESCRIPTION**

Containers in clusters

The temporary homes were constructed on municipal land and approved for five years. An employee from the Muslim community sensitised the planning architects to the residents. The outcome was living units of 24 m<sup>2</sup> for two persons and 48 m<sup>2</sup> for four persons, each with bath and kitchen. A maximum of 16 persons live on one level and are self-sufficient. The architects decided against communal showers, as they can lead to problems, especially with Muslim women. Some residents failed to turn off the taps because they found the noise of running water to be soothing, and for this reason water-stop valves had to be installed. The arrangement of the courtyard houses accommodates the need for peace and privacy, creating a layered system of private, semi-private and public areas. The complex has 24-hour security.

"The Bremen examples also show that once these people have spent a few months in temporary housing they are reluctant to move." Architect Tobias Kister, who planned the container complexes, concludes: "We must create sustainable, higher-quality and durable residential complexes. It is not the residents who move on, but the social workers and managers who are no longer needed." Kister is currently planning a housing complex made of wood. "A container is not suitable for permanent living," he says.

Text: Friederike Meyer

from: Stadtbauwelt 48.2015

<http://www.bauwelt.de/artikel/Container-2480270.html>

## Appendix B – IRB Approval



UNIVERSITY OF OREGON

DATE: November 27, 2017 **IRB Protocol Number: 11072017.004**

TO: Carly Bushman, Principal Investigator  
Department of Clark Honors College

RE: Protocol entitled, "A Prototype Pattern Language for Refugee Housing in Portland"

**Notice of IRB Review and Exempt Determination  
as per Title 45 CFR Part 46.101 (b)(2)**

The above protocol has been reviewed by the University of Oregon Institutional Review Board and Research Compliance Services. This is a minimal risk research protocol that qualifies for an exemption from IRB review under 45 CFR 46.101(b)(2) for research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior.

Please note that you will not be required to submit continuing reviews for this protocol, however, you must submit any changes to the protocol to Research Compliance Services for assessment to verify that the protocol continues to qualify for exemption. **This exempt determination will expire November 26, 2022.** Should your research continue beyond expiration date, you will need to submit a new protocol application.

**Your responsibility as a Principal Investigator also includes:**

- Obtaining written documentation of the appropriate permissions from public school districts, institutions, agencies, or other organizations, etc., prior to conducting your research
- Notifying Research Compliance Services of any change in Principal Investigator
- Notifying Research Compliance Services of any changes to or supplemental funding
- Retaining copies of this determination, any signed consent forms, and related research materials for five years after conclusion of your study or the closure of your sponsored research, whichever comes last.

As with all Human Subject Research, exempt research is subject to periodic Post Approval Monitoring review.

If you have any questions regarding your protocol or the review process, please contact Research Compliance Services at [ResearchCompliance@uoregon.edu](mailto:ResearchCompliance@uoregon.edu) or (541)346-2510.

Sincerely,

A handwritten signature in cursive script that reads "Lizzy Utterback".

Lizzy Utterback  
Research Compliance Administrator

CC: Howard Davis, Faculty Advisor

COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS & RESEARCH COMPLIANCE SERVICES  
677 E. 12<sup>th</sup> Ave., Suite 500, 5237 University of Oregon, Eugene OR 97401-5237  
T 541-346-2510 F 541-346-5138 <http://rcs.uoregon.edu>

*An equal opportunity, affirmative action institution committed to cultural diversity and compliance with the Americans with Disabilities Act*



DATE: January 09, 2018

IRB Protocol Number: 11072017.004

TO: Carly Bushman, Principal Investigator  
Department of Clark Honors College

RE: Protocol entitled, "A Prototype Pattern Language for Refugee Housing in Portland"

**Notice of IRB Review and Exempt Determination Amendment  
as per Title 45 CFR Part 46.101 (b)(2)**

The amendment submitted on December 26, 2017 to the above protocol has been reviewed by the University of Oregon Institutional Review Board and Research Compliance Services. This is a minimal risk research protocol that continues to qualify for an exemption from IRB review under 45 CFR 46.101(b)(2) for research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior.

Please note that you will not be required to submit continuing reviews for this protocol, however, you must submit any changes to the protocol to Research Compliance Services for assessment to verify that the protocol continues to qualify for exemption. **This exempt determination will expire November 26, 2022.** Should your research continue beyond expiration date, you will need to submit a new protocol application.

**The purpose of this Amendment is to:**

- Now compensating participants \$20

**Your responsibility as a Principal Investigator also includes:**

- Obtaining written documentation of the appropriate permissions from public school districts, institutions, agencies, or other organizations, etc., prior to conducting your research
- Notifying Research Compliance Services of any change in Principal Investigator
- Notifying Research Compliance Services of any changes to or supplemental funding
- Retaining copies of this determination, any signed consent forms, and related research materials for five years after conclusion of your study or the closure of your sponsored research, whichever comes last.

As with all Human Subject Research, exempt research is subject to periodic Post Approval Monitoring review.

If you have any questions regarding your protocol or the review process, please contact Research Compliance Services at [ResearchCompliance@uoregon.edu](mailto:ResearchCompliance@uoregon.edu) or (541)346-2510.

Sincerely,

Daniel Berman  
Research Compliance Administrator

COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS | RESEARCH COMPLIANCE SERVICES  
677 E. 12<sup>th</sup> Ave., Suite 500, 5237 University of Oregon, Eugene OR 97401-5237  
T 541-346-2510 F 541-346-5134 <http://rcs.uoregon.edu>

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## **Appendix C – Skeleton Interview Plan**

### **Community**

In preparation:

- Research the area surrounding the refugee family's location to determine its characteristics (urban, rural, dense, sprawl)
- If possible, ask PRSG proximity of the interviewees in relation to other refugee families
- Research the walkscore of the area via [www.walkscore.com](http://www.walkscore.com) and surrounding bus routes

### **Neighborhood**

In preparation:

- Research the surrounding businesses and public amenities including libraries, schools, etc.
- Research the demographics of the area, especially average income

### **Exterior/Interior Dwelling**

In preparation:

- Walk through the interviewee's current house to create a quick sketch of the layout
- If the interview takes place in another location, ask the interviewee to describe or draw the layout of their current house
- Ask interviewee to describe or draw the layout of their home in their country of origin

### **Semi-Structured Interview Questions**

What is your age?

Where did you live before being resettled in the US?

How long have you been in the US?

Who else lives here with you? (i.e. children, relatives, grandparents)

What was your occupation in your country of origin? Are you employed now? If so, where?

How far is your commute to work?

Is the way you travel to work your main mode of transportation?

Is this an effective way for you to reach the destinations you need to go to?

What other places do you frequent on a day to day basis? (Focus in on businesses, schools, libraries and public support places)

Why are these places important? Are they retail, educational, social, etc.?

What kind of people do you interact with at these places? Are they local residents, family friends, other refugees?

Would you prefer to be in closer proximity to any other these people? Why? (To be closer to local residents? Closer to refugee community? Closer to businesses? Closer to other family?)

Do you believe that your current location is your most affordable option? If you could, would you prefer to live closer to Portland?

Would having the opportunity to own you house be more beneficial? Why?

Did you own you own home in Syria?

Even though you are doing (current job) now, would being able to work from home be a better option?

If so what would you need to work from home? (Flexible ground floor? Owning a business?)

Considering your current house as it is, do you feel connected to the neighborhood around you?

If so, what about the house makes you feel connected? If not, how could you change your house to be more connected? (Connection to the street or outdoor space?)

Do you feel like you have enough privacy from the surroundings outside of the house? (Is there a transition from the outside to the inside?)

Do you have enough privacy within the house?

When you host guests, where are they received?

Is this different from your house in your country of origin?

When you cooked for guests in (country of origin), could they see, hear or smell the kitchen?

Where was the bathroom in relation to this space?

If that was the most public area of the house, what was the most private?

How many of your family members share a room?

Is this comfortable or would you prefer to have more space for each family member?

Have you significantly had to change how you live compared to how you lived in your country of origin because of the way your house is organized? (Religious activities, social activities, familial activities?)

Do you have anything else you think is important to mention about your house, the neighborhood you're living in or another other experiences?

## Appendix D – Interview Notes

### Nazari Family Interview 1/25/18

#### *Background*

- 1 year, 4 months in United States
- 3 adults, 6 children (2 sisters and husband)

#### *Community*

##### Beaverton, OR

- Urban density
  - Lived in SE Portland before moving to Beaverton in two separate apartments in separate buildings 10ft away from each other
  - Neighboring residents were physically hostile (throwing rocks at the children and property) so the family had to file a complaint
  - Privacy and safety was a major concern - Sister felt uncomfortable and stayed with other sister instead of returning to her apartment
  - Family prefers living in a less dense area because it is more private, quiet and safe – feels completely adjusted in new home
- Ethnic enclaves/wide distribution
  - Interacts with another Syrian woman in Beaverton
  - “Live on an empty street” – Neighbors are not openly welcome
  - Language barrier, neighbors do not respond when said hello to
  - Intimidated by cultural barriers/etiquette?
  - Male “breadwinner” feels more comfortable talking to Iraqi coworkers
- Public transport
  - Walk Score 58, Transit Score 33 (Some errands can be accomplished by foot, a few nearby public transportation options)
  - Does not own a car – Walks to Safeway for groceries, goes to Winco via Trimet Bus
  - Sarkawt explained that Middle Eastern cultures appreciate malls and their vast selections
  - Single male (“breadwinner”) commutes via Trimet bus or the MAX approximately 1 hour and 15 minutes
  - Older son bikes to school

#### *Neighborhood*

##### Highland Neighborhood

- Affordability

- Money from the government as compensation for deceased love one, food stamps (initially \$500, then \$250 when family member has an income) and single male's income combined are still not enough to support family on top of rent
- Family previously lived in 2 Bedroom apartment in Syria (since been demolished)
- While jobs are more readily available in the United States than Syria, property and cost of living is more expensive
- The income made in the United States would buy much more in Syria due to exchange rate
- Close to businesses
  - Walking distance to Safeway as an advantage
- Schools
  - Children learning English in school – parents had children practice with interpreter
  - Parents only participate when school events require attendance
  - Translator was needed at “parent-teacher night” type event
- Public support
  - Primarily government support – when asked about PRSG events, the family referred to the caseworker only

*Exterior/interior*

3 Bedroom / 1 Bath – Living there for five months total

- Outdoor area
  - Kids enjoy playing outside
  - Garage used as an added storage space
- Formal guest room
  - Both living areas were considered “formal”
  - The front living room contained the television and long couch (tea and coffee were served to us as guests in this room)
  - Chairs brought into living room and gathered around coffee table
  - Children sat on the floor
  - The rear living room contained a couch (covered in clean laundry) and shelves
- Central hall
  - Initially greeted by the six children – not everyone could fit in the doorway to greet us
  - Narrow hall to take off shoes
- Adaptability over time



- “Play area” must have been exterior porch before
- Privacy
  - Sharing rooms was common with the male children in one room and females in the other
  - Approximately two beds per room – twin and double/queen sized

### *Reflections*

Sarkawt connected well with the family as an immigrant from Iraq – his mediation was essential to the level of comfort of the family. When asked why I was doing this, Sarkawt tried framing it as a graduation requirement rather than an effort to help or bring a voice to refugees – it will be important for me to avoid the “white savior” complex in my thesis. One of the sisters made an exception to let me record the conversation and asked me as a favor to delete the audio recordings of their voices – people had come in the past to interview them with video cameras and she had denied them. Sarkawt and I still felt like the space was not sufficient enough for such a large family.

### **Extended Transcription with Maryam Ghobash 03/10/2018**

Difficulty translating “privacy”

“She feels a level of comfort in the house”

Frowned upon to complain about situation

Financially can’t afford car - 1 year 4 months

Brother died five days after arriving

Fredmeyer and Winco cheaper than Safeway and with larger selection

Safeway immediate necessities, weekly grocery shopping - they all go together to Winco mall

7 hour shift - Goes to work 6am and comes home by 6pm

Commute - shift buses (lost time) 1 hour and a half

Maryam’s comment – Mosques as outreach rather than refugee support

Getting to know Muslim community

No knowledge of any refugee support with PRSG

Food stamps most helpful for them

Got food stamps soon as husband started working

\$500 for food, reduced to \$250 a month after started working

Blatantly not affordable - “Not enough”

We as a group help each other; if they can't make rent, someone helps - Not specified who

My sister is sick and has kids and can't work

Financial aid for sister because of her sickness - Money contributes to rent

Psychologically unwell because of husband's passing

More financial aid from government because husband's passing (cancer)

Before in Portland now in Beaverton

One Syrian neighbor who is closest to the family - Still far but occasionally comes to visit them

No interaction with non-refugees - Keep to ourselves

English/Arabic language barrier

Past 5 months - No neighbor has tried to help with anything

Separation from cultural differences

Says hi to neighbors - Some interaction

Family wants to keep to themselves - Don't have capacity to be social without economic and social capital

Fight to pay the bill - Financial capacity (most comfortable talking to other refugees because they don't have to explain situation)

Went to the parent teacher conference

Main interaction with interpreter to go to conference

Feels like she's talking to interpreter the whole time

Interpreter was provided (not hired)

Apartment living roughness in Portland - Lack of privacy (bubble of house gives more privacy, less noise, more familiar)

Sister was in separate building with short walk to other building

Want to be closer to each other since husband's passing (living situation amplified by circumstances)

Issues with African American neighbors - harassing the children (throwing stones at apartment - from outside and inside house)

Telling them to go back to their country - Experienced in both apartments

Sharing neighbors more broadly since buildings are so close together

Filed a complaint with the case manager and building manager - Both parties were supported (warning issued)

Happy to not have neighbors above and below - Quieter

Each has own bed - Separated by gender

Infants living with parents for at least a year

Sister sleeps in girls room  
Home is big enough for each person

Privacy to deal with their own problems - Thankful that house is spacious  
Want to adjust - Not looking for a reason to not like it there  
Situation significantly better  
Syria - Turkey - United States - Every incident leading up to now has been unpleasant

Higher ceilings in Syria - (Claustrophobic) in US  
Two bedrooms in Syria - House wasn't large  
3 months' rent in US can buy house in Syria - Struggling not being paid enough to be paying rent  
Difficulties with monetary ability of US dollar  
There's no work in Syria  
Lower class or higher class in Syria - Middle class does not live in Syria  
Pay check to pay check in Syria

### **Awad Family Interview 2/01/18**

#### *Background*

- 1 year in United States
- 2 adults, 3 children

#### *Community*

Portland, OR

- Urban density
  - Recently moved to 2 Bedroom/1 Bath home from 2 Bedroom/1 Bath apartment nearby
  - Noise from living in high density area
  - Drug activity by surrounding residents in the summer
- Ethnic enclaves/wide distribution
  - Visits Syrian family with children of the same age that they met at previous apartment
  - Talked about going over to their friends' homes in Syria without calling and that they would normally do that if it weren't for the distance
  - Residents/refugees who have been in the United States longer help support newcomers
  - Refugees in Gresham are isolated from the refugees in Beaverton

- Support in Beaverton are more organized – refugees in Southeast Portland must be more self sufficient
- Surrounding neighbors are from all over the world but there is limited interaction with them, partially due to the husbands disability
- Public transportation
  - Walk Score 82, Transit Score 54 (Most errands can be accomplished by foot, many nearby public transportation options)
  - Does not own a car – Goes to Goodwill and Fred Meyer via Trimet or caseworker, Cheri, will drive the family
  - Wife attended English classes at Portland Community College via Trimet Bus
  - Wife recently got driver’s license and is getting a van to transport her disabled husband

*Neighborhood*

Rockwood Neighborhood

- Affordable
  - Wife is a paid caregiver for her disabled husband
  - Good Schools
  - Wife enrolled in two terms of English class at Portland Community College
  - One child in kindergarten, second child dislikes school – had to transfer due to emotional and psychological issues
  - Parents do not go to school unless called
- Public Support
- Caseworker, Cheri, considered “second mother” and member of the family
- Oregon Health Plan insurance provides transportation options for medical appointments, etc.
- Volunteers from Portland Refugee Support Group teach English on Sundays from family’s home
- Community events with Syrian families held at Rosewood Community Center but they are not convenient or comfortable for the family to attend

*Exterior/interior*

2 Bedroom / 1 Bath – Living there for one week total

- Outdoor area
  - Green space serves as buffer from street noise and promotes sense of security
  - Considered more peaceful and healing to disabled husband
  - Can hear birds outside

- Connection to the street
  - Initial apartment right on the street reminded the family of Syrian homes, which are built right on the street—later this closeness was seen as undesirable
- Formal guest room
  - Guest rooms are separate from the entry and face the outside
  - Must be separate from the kitchen and exposure to entire house is reduced
- Central hall
  - Construction in Syria is post with concrete that holds house versus wood construction used in the Pacific Northwest
  - Rooms in Syrian homes flow into each other with doors that open off of rooms rather than having a corridor connecting spaces

### *Reflection*

The husband was disabled from the war in Syria and it sounded like one of the sons was suffering from post-traumatic stress disorder. His disability seemed to result in isolation most of the time. The interior of the home was described as depressing although the family was impressed by the outside. The caseworker, Cheri said there was a large Syrian community in the area but the family didn't seem to interact with the community very often.

### **Wasem Family Interview 2/01/18**

#### *Background*

- 8 months in current apartment in United States
- 2 adults, 4 children

#### *Community*

Portland, OR

- Urban density
  - The family is comfortable in an apartment complex with higher density living and feels comfortable inside or outside of the house
- Ethnic enclaves/wide distribution
  - Feels less secure with the Awad family further away
  - Downstairs neighbor has a child who is classmates with one of their children
  - She is on a “hello” basis with her surrounding neighbors
- Public transportation

- Walk Score 82, Transit Score 54 (Most errands can be accomplished by foot, many nearby public transportation options)
- Does not own a car – Goes to Winco via TriMet bus at 6am so she can be home by 9am to feed the kids on Fridays

### *Neighborhood*

#### Rockwood Neighborhood

- Affordable
  - Receives \$300 from government, \$700 Fatima, \$300 for working as a caregiver for her aging mother, \$700 for food stamps
  - Rent is \$1,250 so it is livable but family cannot put anything into savings
- Close to businesses
  - Closer supermarkets are more expensive so family prefers Winco
- Good Schools
  - Communication with schools is limited – children do well in school
  - Volunteers encourage involvement and provided translator when needed
  - The teachers are very understanding and see the limitations of the families
- Public Support
  - Rosewood Community Center is within walking distance
  - There are opportunities to learn English there but the other mother's schedule and health prevents her from attending
  - Catholic Charities had brought a Christmas tree for the family and toys for the children during the holidays

### *Exterior/interior*

#### 3 Bedroom / 2 Bath – Living there for eight months

- Outdoor area
  - Apartments in Syria have balcony so arrangements are similar
- Formal Guest Room
  - Family has not had guests over before – strangers are not encouraged
- Privacy
  - Apartments in Syria do have kitchens by the door but they are not always completely exposed (they are closed off)

### *Reflection*

Lama explained that she felt privacy inside her home 100% of the time and explains that she is “like a man” in that way. The older mother had health issues and had lost her son to the war in Syria when he was 47 years old. She had been living in a four story

house in Syria for 47 years before it was destroyed – she explained that generations had been raised in that house and it symbolized many memories.

### **Bahar Interview 3/08/18**

#### *Background*

- 2 year in United States
- 2 adults, 1 toddler

#### *Community*

Beaverton, OR

- Urban density
  - The couple lived on the third floor of an apartment in Hillsboro before moving to their current apartment after their child was born
  - Incident where woman tried to break into the apartment at 2:00am
  - Family is more cautious about locking the doors but feel safe in general
  - In Damascus, the couple was living with the husband’s parents in an apartment on the fifth floor (a total of 180 square meters)
    - 3 Bed / 2 Bath, 2 Living, Large Kitchen, 2 Balconies
    - Kitchen was separated from the rest of the house to provide privacy for women cooking
    - Ceilings height was a generous 3 meters
- Ethnic enclaves/wide distribution
  - Before moving to Hillsboro, the couple stayed with an Egyptian family for two days and the Egyptian husband served as a “guarantor” to ensure that the couple wouldn’t be moved far away by the government since she was pregnant
  - The Egyptian family would buy paintings from the husband in Turkey so they formed a business/personal relationship
  - In the current apartment, the couple interacts briefly with the other neighbors in the area—some are Iraqi and Saudi families but everyone is generally friendly
- Public transportation
  - Walk Score 92, Transit Score 72 (Daily errands do not require a car, transit is convenient for most trips)
  - The couple owns one car and both adults have drivers licenses
  - The husband’s Egyptian friend let him borrow his car until he could afford his own
  - Husband found a kitchen job at the Marriott Hotel through his Egyptian friend and then later for Amazon Prime

- The wife is hoping to find a job but is busy taking care of their young son

### *Neighborhood*

#### Central Beaverton

- Close to businesses
  - The wife goes to Safeway that is within walking distance
  - Otherwise the family drives to Costco
- Public Support
  - Upon arriving, the welcoming committee gave the couple funding to look for their own apartment or house so they chose the third floor apartment in Hillsboro

### *Exterior/interior*

#### 2 Bedroom / 1 Bath – Living there for 4-5 months

- Outdoor area
  - The wife selected the apartment in Hillsboro for its good daylighting and landscaping with views to the outside
  - Their current apartment shares a yard with the other units but it is usually too rainy to go outside
- Formal Guest Room
  - The couple's previous home in Damascus had a kitchen that was separated from the rest of the house to provide privacy for women who were cooking
- Privacy
  - The third floor apartment in Hillsboro lacked privacy in the kitchen and the neighbors above and below the family could be heard
  - The couple said the interior of the apartment was not comfortably laid out with 1 bedroom and the kitchen/living space was combined
  - The upstairs neighbors would complain about the noise frequently
  - Initially, the family left their doors unlocked until there was an incident at 2:00am when an intoxicated woman attempted to break into the apartment from the balcony thinking it was her friends.
  - In the current apartment, an elderly Asian couple and their son who live above complain about the noise of the couple's young son
    - One of the complaints was that the metal closet doors were squeaky so the couple has asked the apartment managers to change it for them
    - The couple does their best to respect their neighbors but feel like they have limited freedom in their house



- The couple is dissatisfied with the auditory quality of wood construction in comparison to concrete construction in their home countries where the thick walls absorb more sound

### **Kalb Family Interview 3/11/18**

#### *Background*

- 1 and a half years in United States
- 2 adults, 5 children

#### *Community*

##### Portland, OR

- Urban density
  - The family previously lived in a large five bedroom house with ceilings that were twice the size of their current home
- Ethnic enclaves/wide distribution
  - People in US mind their own business and are not as open as in Syria
- Public transportation
  - Walk Score 42, Transit Score 32 (Most errands require a car, a few nearby public transportation options)
  - Owns a vehicle and transports children to doctor's appointments for treatments
  - Husband commutes to work at a Lebanese restaurant in Tualatin, Oregon as a sous chef
  - Husband now makes \$14 an hour instead of \$12

#### *Neighborhood*

##### Oak Hills

- Good schools
  - Children get to school via school bus with ramp
  - Parents are hesitant to move from location because the school have been so great
  - The teachers are adjusted to the disabled children and understanding
- Public support
  - Family was first taken to a temporary residential location for one month, then they were relocated to a church and then to their current home
  - The family's health insurance provided the disabled daughters with electric chairs
  - Catholic Charities volunteer visits at times

- The husband was trying to learn English for two years but was too busy with the children to continue learning

*Exterior/interior*

3 Bedroom / 1 Bath – Living there for 4-5 months

- Affordability
  - The family is so frustrated with the situation that they are willing to pay more to rent a more spacious even if it is further away from their current location
  - The family had applied for a new house in Camas, Washington but their application was denied
- Outdoor area
  - The husband appreciate the beautiful trees and gardens at the temporary transition place that they stayed at for the first month
  - There was a dome covering outdoor chairs and tables with an open lawn and a maintenance crew that took care of the grounds
  - He described it as a transition from “heaven” to “prison” in their current home
  - The current apartment has a shared yard that the family rarely uses
- Bathroom/toilet placement
  - Another thing the family appreciated was that there was a master bathroom that was spacious in size to accommodate their daughters with special needs
  - Two of the children have both mobility and skin conditions, which required their parents to wash them for 1-2 hours in the single bathroom in the house
- Accessibility
  - The electric chairs provided by the family’s health insurance are too large to fit through the door openings throughout the house
  - The wear and tear is evident on the corners of all of the door frames
- Privacy
  - Neighbors are loud but there is a mutual understanding or tolerance among residents
  - The family feels like they have enough privacy but are not necessarily comfortable
  - The family keeps the windows closed most of the time to make them feel more secure

### *Reflection*

The family genuinely wanted change for their family because the living conditions don't suit their needs. Sarkawt provided the father with his contact information in case of emergency and said if anything comes of this interview, it is that we have met each other and for that he was grateful.

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