

**Re - Settled:
A New Typology for Refugee Housing Promoting Community
Assimilation through Integration, Interaction, and Adaptation**

by

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ABSTRACT

This thesis aims to analyze the challenges resettled refugees face, propose architectural guidelines that directly address these needs, and introduce a new typology of public housing that helps to assimilate resettled refugees into U.S. communities.

The test site for this thesis will be the city of Chicago. Chicago has a long history of welcoming immigrants and refugees and continues to be a forerunner in refugee resettlement.

How can housing in the United States be designed to address the challenges faced by refugees and help asylum seekers more quickly adapt to life in a new and unfamiliar country?

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CHAPTER 1: INTRODUCTION

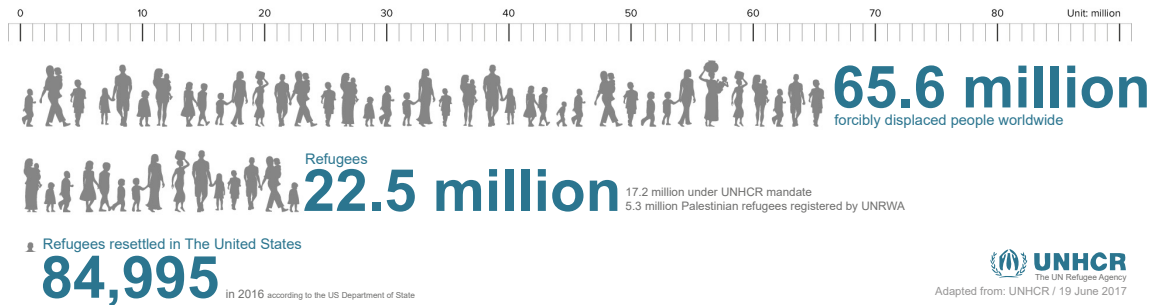


Figure 1.01: Refugee figures.
(Adapted from Figures at a Glance- Statistical Yearbooks; digital graphic by United Nations High Commissioner for Refugees)

THE GLOBAL REFUGEE CRISIS

One of the greatest global issues facing our generation is the increasing refugee crises throughout the world. According to the United Nations High Commissioner for Refugees (UNHCR), nearly 1% (1 in 113 people) of people in the world are currently “forcibly displaced” (Figure 1.02); that is 65.6 million worldwide (Figure 1.01). Richard van der Laken, founder and creative director of the What Design Can Do Conference, believes that while there have always been refugees, the current crisis may be “without precedent.”¹ Activists and leaders around the world have begun to discuss solutions for temporary housing for asylum seekers in camps and urban areas in host countries, but what about refugees who cannot return home? According to UNHCR, returning home is not an option for an increasing number of refugees, because of continuing persecution and armed conflicts in their places of origin. For the most vulnerable refugees who can neither return to their home country nor live in safety in their current host country, resettlement in a third country is their only option.²

1
113
PEOPLE ON EARTH ARE FORCEFULLY DISPLACED

Figure 1.02: Global displacement rate

- 1 Richard Van der Laken, “Richard van der Laken on The Role of Designers in the Refugee Crisis” 2016. <https://www.dezeen.com/2016/04/29/richard-van-der-laken-opinion-what-design-can-do-refugee-challenge-role-designers-humanitarian-design/>.
- 2 United Nations High Commissioner for Refugees (UNHCR), “Resettlement in the United States.” *UNHCR: The UN Refugee Agency*, 2018, <http://www.unhcr.org/resettlement-in-the-united-states.html>.



Lutheran Immigration
and Refugee Service



US Conference of
Catholic Bishops



US Committee for
Refugees and Immigrants



Hebrew Immigrant
Aid Society



World Relief

THE ROLE OF THE UNITED STATES

The US has long been one of the leading countries settling refugees and continues to be the top resettlement country in the world. Since 1975, the United States has welcomed over 3 million refugees;³ according to the US Department of State, the US permanently resettled almost 85 thousand refugees in 2016.⁴

Refugee resettlement in the United States is a multi-step process. The US arguably has the most complex refugee resettlement process out of any country currently accepting refugees and can take anywhere from 18-24 months from the time the UNHCR refers a refugee's case to when they finally enter the states.⁵

Once accepted for resettlement in the US, each refugee is assigned to one of nine government-approved organizations (Figure 1.03).⁶ These organizations, called VOLAGs or voluntary agencies, are responsible for helping acclimate refugees into their new communities and provide initial reception and support services (Figure 1.04) for the first 30-90 days after the refugees arrive. These services include, "finding safe and affordable housing and providing a variety of services to promote early self-sufficiency and cultural adjustment."⁷ In addition to assistance from VOLAGs, refugees

3 United Nations High Commissioner for Refugees (UNHCR). "Resettlement in the United States." *UNHCR: The UN Refugee Agency*, 2018, <http://www.unhcr.org/resettlement-in-the-united-states.html>.

4 "Fact Sheet: Fiscal Year 2016 Refugee Admissions." *U.S. Department of State*, January 20, 2017, <https://www.state.gov/j/prm/releases/factsheets/2017/266365.htm>.

5 Olivia Enos, David Inserra, and Joshua Meservey. *The U.S. Refugee Admissions Program: A Roadmap for Reform*. (Report, The Heritage Foundation, 2017) <https://www.heritage.org/immigration/report/the-us-refugee-admissions-program-roadmap-reform>.

6 United Nations High Commissioner for Refugees (UNHCR). "Resettlement in the United States." *UNHCR: The UN Refugee Agency*, January 2018, <http://www.unhcr.org/resettlement-in-the-united-states.html>.

7 "U.S. Refugee Admissions Program FAQs." *U.S. Department of State*, February 01, 2018, <https://www.state.gov/j/prm/releases/factsheets/2018/277838.htm>.

Figure 1.03a: Resettlement organizations (VOLAGs)



Church World
Service



Ethiopian Community
Development Council



Episcopal Migration
Services



International Rescue
Committee

Figure 1.03b: Resettlement organizations (VOLAGs), cont.

receive cash assistance from the U.S. Department of Health & Human Services Office of Refugee Resettlement (ORR) to cover basic needs such as food, clothing, and housing for up to eight months.⁸ But according to Sheik Suhail Mulla, the interim executive director of Access California Services, a nonprofit organization that supports Muslim and Arab-Americans, refugees, and immigrants, eight months is not an adequate amount of time for most refugees to become self-sufficient; once the 8 month assistance period has passed “you’re supposed to know how to speak the language, be employed, and be able to take care of yourself and your own your needs.”⁹

THESIS POSITIONING STATEMENT:

CURRENT REFUGEE HOUSING SOLUTIONS FALL SHORT

According to UNHCR, “refugees are often resettled to a country where the society, language and culture are completely different and new to them. Providing for their effective reception and integration is beneficial for both the refugee and the receiving country.”¹⁰ The government oversees very little of the refugee resettlement process- as a result, there is no formal refugee housing model mandated by the government and refugees are merely assigned housing wherever they fit and where landlords are willing to rent to them.

The US Government and VOLAGSs resettle refugees on a case-by-case basis looking into a multitude of criteria for where a refugee family could best be settled. Four of

8 United Nations High Commissioner for Refugees (UNHCR), *UNHCR Resettlement Handbook: Country Chapter – United States of America*. (Geneva: UN High Commissioner for Refugees, 2017), <http://www.unhcr.org/3c5e5a764.html>, 10.

9 Neha Wadekar, “Refugees Discuss Most Difficult Part of Living in America” January 25, 2016. https://www.huffingtonpost.com/entry/resettled-syrian-refugees-bureaucracy_us_568aab81e4b06fa68882ecc9.

10 United Nations High Commissioner for Refugees (UNHCR), “Resettlement,” *UNHCR: The UN Refugee Agency*, accessed February 15, 2018. <http://www.unhcr.org/resettlement.html>.



locate housing



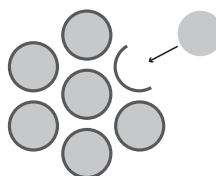
provide basic household items



Affordable Housing



Job Opportunities



Existing Refugee Community



Established Refugee Resettlement Organizations



airport transportation



medical screening

the main criteria include: (1) access to affordable housing; (2) job opportunities; (3) an existing refugee population in the area; and (4) established refugee support organizations in the area (Figure 1.05).¹¹ Obviously, these organizations do the best that they can to provide adequate support, but the criteria assigned by the US government are not always enough to ensure successful resettlement. Additionally, with the increasing deficit of affordable housing across the united states and increasing socioeconomic segregation, adequate, affordable housing can be very difficult to find.

Figure 1.05: U.S. Government Refugee Resettlement Housing Criteria

EXISTING HOUSING CASE STUDIES

According to a report prepared by Mercy Housing’s Refugee Housing Program, one of the nation’s largest affordable housing organizations,

community integration is the ultimate goal of refugee resettlement. Unfortunately, some of the current features of the housing market ... are barriers to creating healthy communities, exacerbating refugees’ already difficult integration process.¹²

Figure 1.04a: Resettlement services

11 “U.S. Refugee Admissions Program FAQs,” *U.S. Department of State*, February 01, 2018. <https://www.state.gov/j/prm/releases/factsheets/2018/277838.htm>.

12 Leslie Olson, *At Home with Refugee Housing: Resettlement to Integration* (Denver, CO: Mercy Housing, 2006) <https://www.acf.hhs.gov/orr/resource/promising-practices>, 12-13.



paperwork assistance



job search assistance



school enrolment



assess other needs /
services

Figure 1.04b: Resettlement services, cont.

Too often housing available to refugees introduces barriers to integration efforts such as enabling dependency, increasing alienation, and placing families in unsafe neighborhoods. The following study of refugee housing in Minnesota, Illinois, and Washington state begin to identify some of these shortfalls.

RIVERSIDE PLAZA, MINNEAPOLIS, MN

Riverside Plaza is a mass housing complex in the Cedar-Riverside neighborhood of Minneapolis, Minnesota and is the heart of a Somali refugee community- the largest in the country- living there (Figure 1.06).¹³ According to the Institute on Metropolitan Opportunity at University of Minnesota School of Law, the neighborhood Riverside Plaza is in, Cedar Riverside, exhibits significant economic and ethnic segregation; Cedar Riverside has one of the highest percentages of people living below the poverty line in all of the Twin Cities area. While not all residents of Cedar-Riverside are Somali refugees, 50-75% are an ethnic minority, according to the same University of Minnesota study.¹⁴ This economic and ethnic segregation, largely due to the concentration of low-income housing in the neighborhood, isolates residents of Cedar-Riverside from greater community where affordable housing is less prevalent. This isolation is not reserved to just Riverside Plaza and the Cedar-Riverside neighborhood; according to Alexia Fernandez Campbell, an immigration reporter for The Atlantic,

The federal government and its nonprofit partners provide job-search help and cash assistance for refugees during their first months in the United States. After that, they are largely on their own. This strategy has made it hard for refugee families—who often come to America with few assets or material possessions—to move up and out of

13 Alexia Fernández Campbell. “Americas Real Refugee Problem” October 24, 2016. <https://www.theatlantic.com/business/archive/2016/10/the-challenge-of-integrating-americas-refugees/505031/>.

14 Myron Orfield, *Why Are the Twin Cities So Segregated?* (Report, Institute on Metropolitan Opportunity, University of Minnesota School of Law, 2015) <https://www.minnpost.com/politics-policy/2015/03/why-are-twin-cities-so-segregated-new-report-blames-housing-policies-and-edu>, 11-12.

poverty and may contribute to younger generations' sense of isolation, the result of struggling to find their place in this country.¹⁵

In her paper, "The House as Symbol of the Self", Clare Cooper reinforces this notion writing that in the United States, "society has decided to penalize those who, through no fault of their own cannot build, buy, or rent their own housing". Cooper goes on to say that "an apartment is rarely seen as home, for a house can only be seen as a freestanding house-on-the-ground."¹⁶ In the US, public opinion of lower-income households cripples integration and encourages segregation and social isolation. According to Campbell and Cooper, anywhere poverty persists, a sense of resident isolation is



Figure 1.06: Riverside Plaza - increased alienation
(Riverside Plaza and Mixed Blood Theatre at sunset; photograph by August Schwerdfeger)

15 Alexia Fernández Campbell. "Americas Real Refugee Problem" October 24, 2016. <https://www.theatlantic.com/business/archive/2016/10/the-challenge-of-integrating-americas-refugees/505031/>.

16 Clare Cooper, "The house as symbol of the self." in *Designing for Human Behavior: Architecture and the behavioral sciences*, ed. Jon Lang (Stroudsburg, PA: Dowden, Hutchinson & Ross, 1974), 133.

likely to occur; this phenomenon is seen in Minneapolis with the residents of the Cedar-Riverside neighborhood.

SAN APARTMENTS, WHEATON, IL

San Apartment Complex is located on Roosevelt Road in Wheaton, IL (Figure 1.07). Roosevelt Road is a major thoroughfare lined with commercial businesses and very little single- or multi-family residential. The complex is very near to where the author of this thesis grew up and is home to many refugee families that the author has worked with. The complex is stuck in the middle of suburban sprawl where day-to-day life revolves around the automobile and there is little public transit available to those who do not own a vehicle.

This poses a great struggle for the refugee families that live at San Apartments and other housing complexes located within suburban sprawl. According to a Report from the University of Vermont Transportation Research Center,

limited transportation options can in substantial ways restrict the autonomy and independence of refugees, leaving them dependent on the services and schedules of others, which in turn can adversely affect their ability to seek and secure gainful employment, receive necessary medical care, and access other goods and services vital to survival, such as food and clothing... research suggests that for refugee families and individuals for whom transportation is less of a challenge – because they live closer to their travel destinations or to transit options, or due to their access to a car – their acclimation to a new environment is potentially smoother.¹⁷

The integration of immigrants into American society, a publication prepared by The National Academies of Sciences, Engineering, and Medicine, reinforces this argument and adds to it showing the lack of public transportation in suburban areas can lead to increased poverty rates among immigrants,

¹⁷ Pablo S. Bose, *Transportation, Equity, and Communities at Risk: Refugee Population and Transportation Accessibility in Vermont* (Report, Department of Geography: Transportation Research Center, University of Vermont, 2011) <http://blog.uvm.edu/pbose/research/transportation-equity-and-communities-at-risk-refugee-populations-and-transportation-accessibility-in-vermont/refugee-mobilities/>, 2.

many suburban communities lack public transportation services, day care, or after-school programs that can accommodate the routine daily activities and work schedules of immigrants. Under these circumstances, it is not surprising that rates of poverty have grown most rapidly over the past decade in suburban areas that have become home for America's new immigrant populations.¹⁸

World Relief of Dupage and Aurora, one of the refugee resettlement organizations directly working with residents of this apartment complex acknowledges that for refugees living in the suburbs, “a personal mode of transportation is a necessity.”¹⁹ The organization actively seeks private vehicle donations from the public; while this is a helpful solution, it does not address the root of the cause. Additionally, an article



Figure 1.07: San Apartments - enabling dependency
(Google Maps, 2018)

18 National Academies of Science, Engineering, and Medicine, *The Integration of Immigrants into American Society*. Edited by the Panel on the Integration of Immigrants into American Society, M.C. Waters and M.G. Pineau (Washington, DC: The National Academies Press, 2015), 220.

19 “Refugee Employment Services” *World Relief Dupage/Aurora*, February 14, 2018, <https://worldreliefdupageaurora.org/refugee-employment-services>.

published on Global Citizen points out, “transportation is an issue that affects nearly every aspect of life for refugees” and “obtaining a driver’s license” ... “is extremely difficult especially for those who have limited English proficiency.”²⁰

Without a driver’s license or a vehicle, refugees here must rely on the poor public transportation system, or local volunteers to get them from place to place. This limits a refugee’s ability to become self-reliant; without a driver’s license or a vehicle, refugees here must rely on the poor public transportation system, or local volunteers to get them from place to place.

TUKWILA, WA

Refugee resettlement organizations began settling



Figure 1.08: Tukwila, WA - unsafe neighborhoods (#15; photograph by McNair Evans)

²⁰ Christina Nuñez, “The 7 biggest challenges facing refugees and immigrants in the US.” December 12, 2014, <https://www.globalcitizen.org/en/content/the-7-biggest-challenges-facing-refugees-and-immig/>.

asylum seekers in the neighboring suburb of Tukwila, WA after the 1990s tech boom drove up housing costs in Seattle (Figure 1.08). U.S. census reports a drastic change in Tukwila ethnic demography from 1990 to now; the city had 834 foreign-born residents then, but today about 40% of Tukwila's population- close to 8,000 residents- are foreign-born.²¹

Unfortunately, the city of Tukwila has been ranked the most dangerous city in the United States, according to a 2016 SafeWise Report.²² Local police report that these crimes are not a result of recent refugee settlement, but by visitors to the area. More than 80% of people arrested in the city aren't Tukwila residents.²³ Due to limited access to affordable housing throughout the United States, refugees resettled in the U.S. resort to living in unsafe neighborhoods like Tukwila.

CASE FOR ACTION

Housing for resettled refugees must be more than a roof and four walls, it must address countless social, cultural, and economic issues as well. The design of housing, schools, community centers, and workplaces can either encourage adaptation and assimilation or force refugees to feel alienated, isolated and discriminated against. For this reason, architects, designers, and urban planners have a responsibility to design in a way that improves the lives of inhabitants. In talking about design for refugees, Sean Anderson, associate curator within the Department of Architecture and Design of MoMA New York, argues, "architecture has the capacity to lessen the trauma inflicted by displacement."²⁴ Consequently, architects, designers, and urban planners have a responsibility to design

21 Karen Weise, "The Refugee Haven South of Seattle." September 15, 2016, <https://www.bloomberg.com/features/2016-america-divided/tukwila-refugees/>.

22 Alexia Chianis, "The 30 Most Dangerous Cities in America - 2016" May 16, 2016, <https://www.safewise.com/blog/the-30-most-dangerous-cities-in-america-2016/>.

23 Karen Weise, "The Refugee Haven South of Seattle." September 15, 2016, <https://www.bloomberg.com/features/2016-america-divided/tukwila-refugees/>.

24 Sean Anderson, "How Architecture Can Redefine the Refugee Crisis" September 08, 2017, <http://www.cnn.com/style/article/sean-anderson-moma-refugee-architecture/index.html>.

in a way that welcomes refugees to the U.S., allows refugees to feel safe in their new country, and facilitates adaptation to a new and unfamiliar life.

The previous examples prove the assertion made by the Mercy Housing Refugee Housing Program Report that much of the housing available to refugees hinders integration efforts (Figure 1.09)²⁵. The UNHCR recognizes that receiving communities are more likely to endorse and support national refugee policies when integration is “successful”.²⁶ Therefore, “providing for their effective reception and integration is beneficial for both the resettled refugee and the receiving country.”²⁷

Just as integration is a constant goal for voluntary agencies, housing for refugees must reflect this goal of inclusion as well as directly respond to the challenges and needs of various refugee groups. Without adequate housing, refugees struggle to resettle in this new and unfamiliar county. Housing for refugees must involve a multifaceted approach to address the various needs of refugee households.

THESIS QUESTION

How can housing in the United States be designed to directly address the challenges faced by refugees and help asylum seekers more quickly adapt to life in a new and unfamiliar country?

**INTEGRATION IS A CONSTANT GOAL FOR
RESETTLEMENT AGENCIES-
YET MOST HOUSING AVAILABLE TO
REFUGEES FALLS SHORT WHEN IT COMES TO
INTEGRATED DESIGN AND OFTEN HINDERS
INTEGRATION EFFORTS**

Figure 1.09: Role of integration in refugee resettlement

25 Leslie Olson. *At Home with Refugee Housing: Resettlement to Integration*. (Denver, CO: Mercy Housing, 2006) <https://www.acf.hhs.gov/orr/resource/promising-practices>, 12-13.

26 United Nations High Commissioner for Refugees (UNHCR). *UNHCR resettlement handbook*. (Geneva: UN High Commissioner for Refugees, 2011) <http://www.unhcr.org/46f7c0ee2.html>, 52.

27 United Nations High Commissioner for Refugees (UNHCR), “Resettlement,” *UNHCR: The UN Refugee Agency*, accessed February 15, 2018. <http://www.unhcr.org/resettlement.html>.

CHAPTER 2: DESIGN METHOD

DESIGN PRINCIPLES - ADDRESSING CHALLENGES

Guiding principles were developed through careful study of 3 sources which describe challenges faced by permanently resettled refugees. These sources included:

International Conference on the Reception and Integration of Resettled Refugees

The published proceedings report from the International Conference on the Reception and Integration of Resettled Refugees.²⁸ Participants of the event included representatives of the government and non-government organizations of major donor countries and supporters of refugee protection, UNHCR staff, and former refugees. This report details challenges faced by refugees globally as well as solutions discussed by conference participants. Seven topics were discussed that were deemed necessary programs to ensure effective integration:

- Cultural Retention and Adaptation
- Support Networks
- Language and Communication
- Refugee Children and Youth
- Employment and Education
- Health
- Secure and Affordable Housing

Living in America: Challenges Facing New Immigrants and Refugees

The Robert Wood Johnson Foundation (RWJF) is a philanthropic organization aimed at improving health in America. In 2006 the foundation published *Living in America:*

28 United Nations High Commissioner for Refugees (UNHCR), "Proceedings Report" (Presentation at the International Conference on the Reception and Integration of Resettled Refugees, Norrköping, Sweden, April 25-27, 2001) <http://www.unhcr.org/protection/resettlement/3b30bb054/international-conference-reception-integration-resettled-refugees-25-27.html>, 20-24.

*Challenges Facing New Immigrants and Refugees*²⁹, a report focusing on issues facing immigrant and refugee communities in the United States. By speaking directly with recent immigrants, refugees, and those working with these vulnerable groups, the RWJF's study, conducted by Lake Snell Perry Mermin and Decision Research, uncovered the large number of barriers these groups come up against and shed light on their major concerns. Barriers discussed in the report include:

- Language barriers
- Economic issues including job security and poor quality, unsafe housing
- Physical and emotional isolation
- Prejudice and discrimination

"The 7 biggest challenges facing refugees and immigrants in the US"

"The 7 biggest challenges facing refugees and immigrants in the US",³⁰ an article published by Global Citizen, an online social action platform that aims to address some of the world's biggest challenges. The article, written by Christina Nuñez, a reporter on poverty in the United States who has worked with several refugee support organizations in Salt Lake City, Utah, lists the following as major challenges refugees face in the United States:

- Language barriers
- Raising children and helping them succeed in school
- Securing Work
- Securing Housing
- Accessing Services
- Transportation
- Cultural Barriers

29 Katherine E. Garrett, ed., "Living in America: Challenges Facing New Immigrants and Refugees" (Report, Prepared for the Robert Wood Johnson Foundation by Lake Snell Perry Mermin/ Decision Research, August 2006) <http://www.rwjf.org/en/library/research/2006/08/living-in-america.html>.

30 Christina Nuñez, "The 7 biggest challenges facing refugees and immigrants in the US" December 12, 2014, <https://www.globalcitizen.org/en/content/the-7-biggest-challenges-facing-refugees-and-immig/>.

Distilled List of Challenges

Distillation of the previous three sources resulted in a comprehensive list of challenges experienced by refugees in the United States. The following challenges will be addressed through the established design principles:

- Language barriers
- Struggling to maintain culture
- Struggle with providing support to student-aged children
- Trouble finding employment
- Cultural barriers
- Problems with poor or non-existent transportation options
- Experiencing Discrimination / Segregation / Isolation
- Difficulty accessing support services
- Obstacles in finding or accessing affordable housing

Resettled refugees have specific needs beyond access to affordable housing. Difficulty with learning a new language, trouble securing work and affordable housing which is near places of work and public transportation routes, difficulty accessing support services- such as language classes, job training, education, childcare, healthcare, legal support, or counseling- all while struggling to maintain culture and dealing with cultural barriers, segregation, isolation, and discrimination add to the difficulties of building a life in the U.S.

Figure 2.01 describes how these challenges may be addressed by architectural solutions including:

Programmatic Solutions:

- Classroom space for ESL classes
- Employment opportunities on site
- Opportunities for self-employment
- Alternative work environments
- Curated program that meets specific refugee needs
- Mixed affordability

Formal Solutions:

- Spaces that promote interaction
- Elements that encourage self-expression
- Flexible, adaptable, responsive spaces

Site Solutions

- Access to multiple modes of transportation
- Supportive community
- Safety

Many of the architectural solutions that address these challenges overlap (Figure 2.01). For example, spaces that promote interaction address segregation and isolation, cultural barriers, difficulty learning English and need for student support. Additionally, providing spaces for support services on site directly address refugees challenge in accessing these services as well as provide space for supportive programming such as English proficiency classes and student tutoring and after-school programs. Designing for flexibility, adaptability, and customization can address the need for affordable housing by providing units that can adapt to changing needs, allow for customization of different privacy levels needed for different cultures, as well as provide opportunities for self-expression.

By integrating all these principles in one project, the shortfalls of one are compensated for by the others. Each of these solutions can be categorized in three key guiding principles: **Integration**, **Interaction**, and **Adaptation**.

Challenges Faced by Resettle Refugees

Architectural Responses

Distilled Takeaways

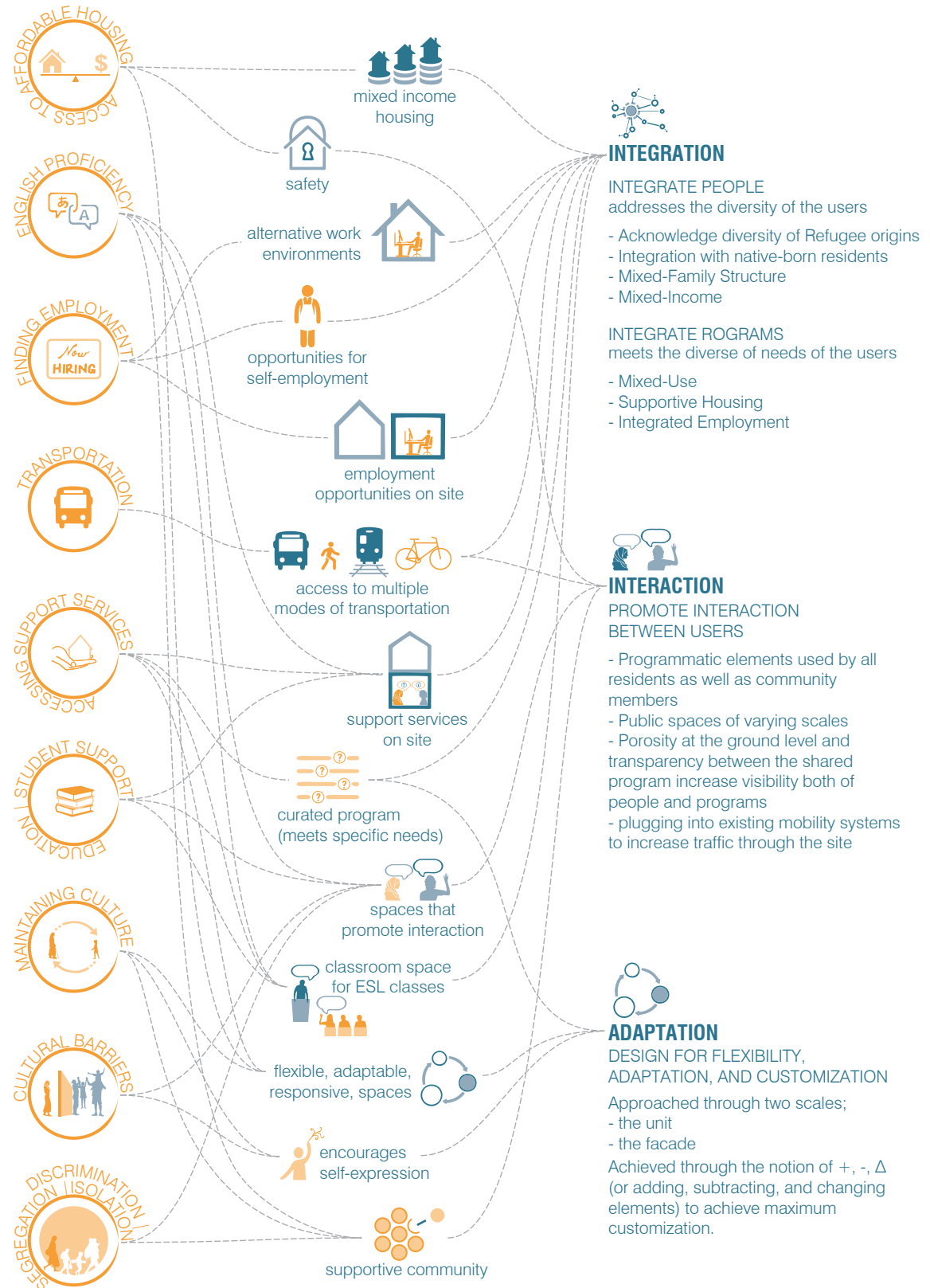


Figure 2.01: Origin of design guidelines based on challenges faced by resettled refugees



Figure 2.02: Integration of people and programs

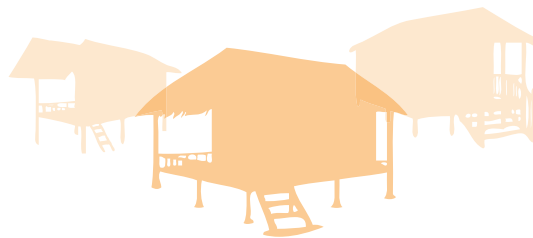
INTEGRATION

[Integration of People and Programs] (Figure 2.02)

INTEGRATION OF PEOPLE

Integration of people addresses the fact that refugees who are resettled in the United States represent a diverse group of people who come from numerous circumstances and backgrounds. In the state of Illinois, the first, second, and fourth most common refugees currently being settled in the state come from three different regions- Asia, the Middle East,


MYANMAR (BURMESE) REFUGEES




 little education

 rural / unindustrialized setting

 religious identification: Muslim

 patriarchal society
strong family ties

 role of women:
childcare, domestic duties,
some agricultural work

 typical house layout
social | sleeping | cooking
parents and children often
sleep in same room

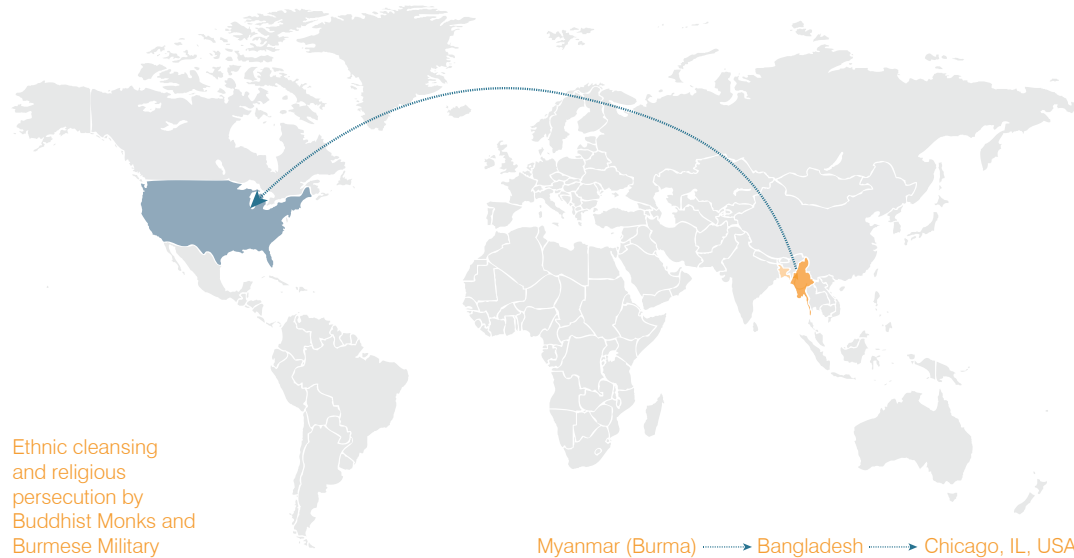


Figure 2.03a: General characteristics of Burmese refugees (Data from Sandy Barron, et al. "Refugees from Burma: Their Backgrounds and Refugee Experiences")

and Africa (Figures 2.03a-c).³¹ With these diverse origins comes a myriad of religions, education levels, expected roles of men and women in the house, as well as variations in the typical housing typologies refugee families would be used to.

Integrating refugee residents with native-born residents aims to avoid the ‘ghettoization’, concentration, and isolation of low-income, refugee households prevalent in Minneapolis; however, it also adds another level of diversity to

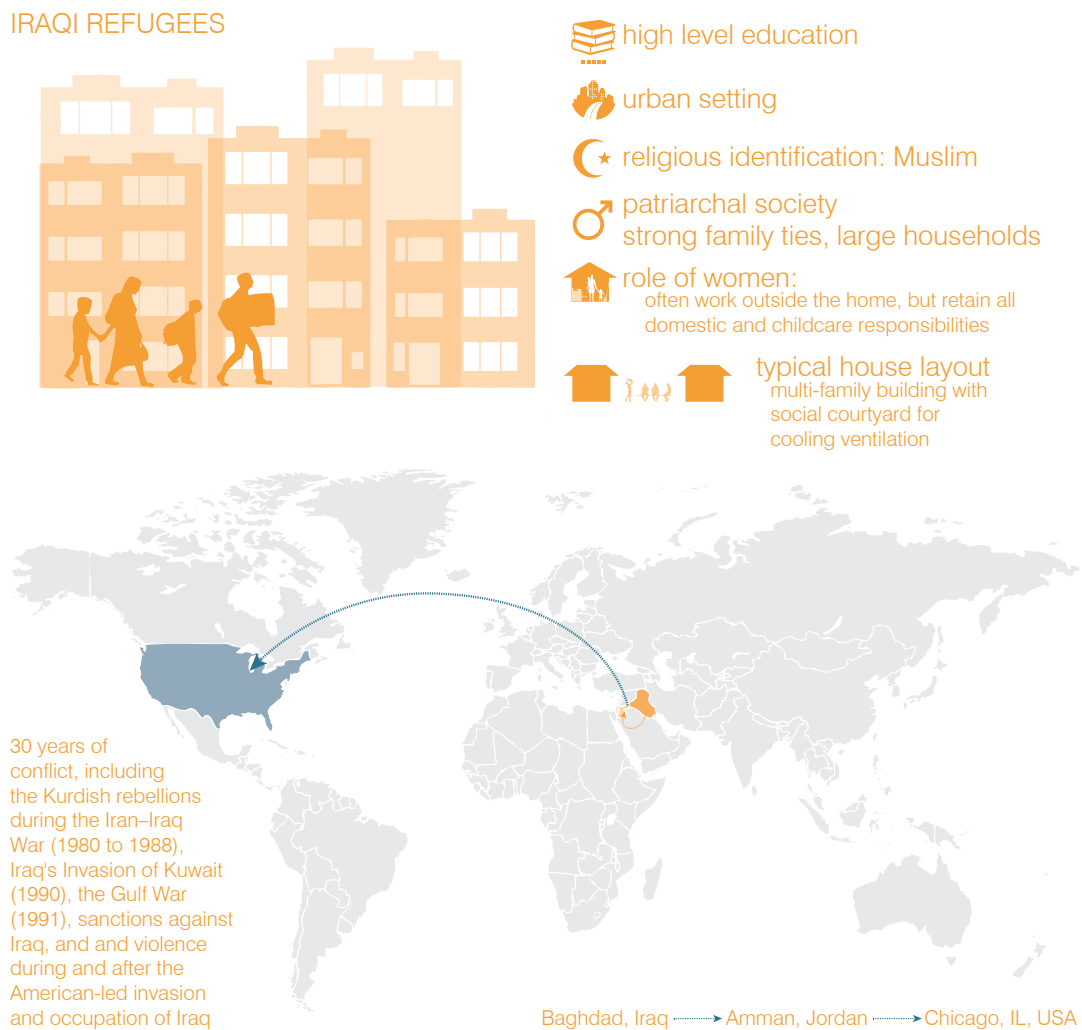


Figure 2.03b: General characteristics of Iraqi refugees
(Data from Edmund Ghareeb, Donald Ranard, and Jenab Tutunji. “Refugees from Iraq: Their History, Cultures, and Background Experiences.”

31 Illinois Refugee Resettlement Program, “Illinois Refugee Program Fiscal Year 2016 Annual Report,” (Report, *Illinois Department of Human Services - Bureau of Refugee and Immigrant Services*, 2016) <https://publish.illinois.edu/projectwelcome/summit/resources/>.

residents (Figures 2.03d). Integrating these diverse customs and cultures together with native-born residents directly references the desire to encourage integration of resettled refugees with the local community.

Recognition must be given to the fact that integrating this diversity of residents into one housing complex will result in an intentional mixing of both income levels and family structures; the architecture of such a complex must address this diversity.

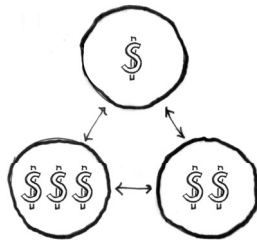


Figure 2.04: Mixed-income

Mixed-Income

Mixed income housing (Figure 2.04) attempts to

CONGOLESE REFUGEES
(Democratic Republic of Congo)



- accessible in urban areas- general male bias, high primary drop out rate
- unofficial settlements in urban setting
- religious identification: Catholic/Christian combined w/ traditional animist practices
- patriarchal society, gender inequality strong family ties, large households
- role of women: women often work outside of the home, usually selling handcrafts or running small businesses
- typical house layout: separate buildings for different uses male and female children sleep separately
- segregated sleeping courtyard

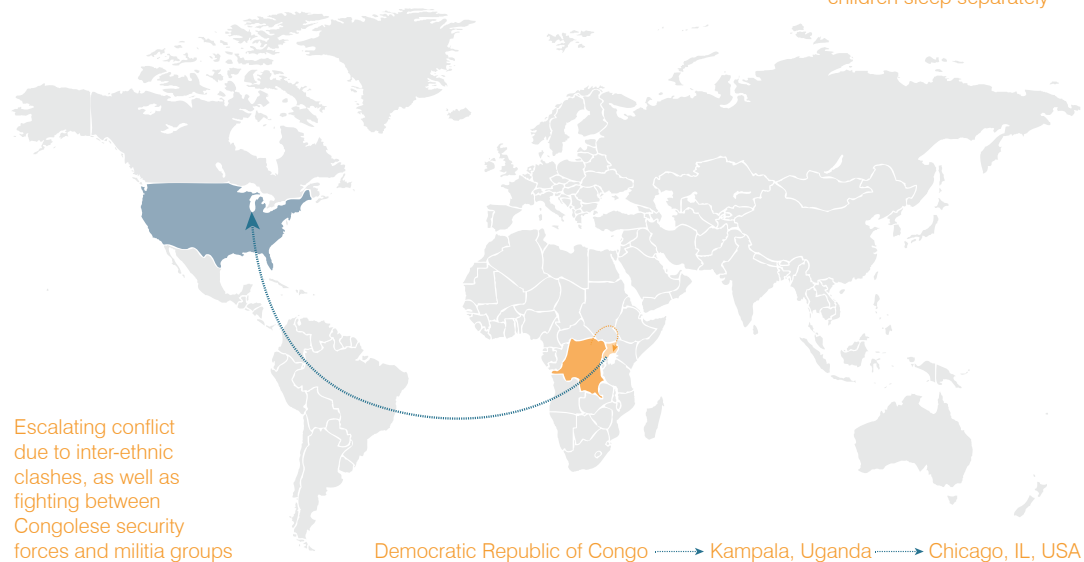


Figure 2.03c: General characteristics of Congolese refugees
(Data from Donald A. Ranard "Refugees from the Democratic Republic of the Congo.")

offset the cost of building and operating affordable housing—by including market-rate units within the same development—while simultaneously addressing the segregation of low and high earning households. This is a common solution to affordable housing currently being proposed by the US department of Housing and Urban Development (HUD) and being implemented by many cities throughout the U.S. including Chicago. Since the widespread failure of public housing in the US, especially in Chicago, mixed income housing models have become one of the main focuses of policy makers, housing developers, and designers alike. Meanwhile, demolition of mass housing projects were presented as a means of preventing ‘ghettoization’ and concentration of low-income households.³² A number of

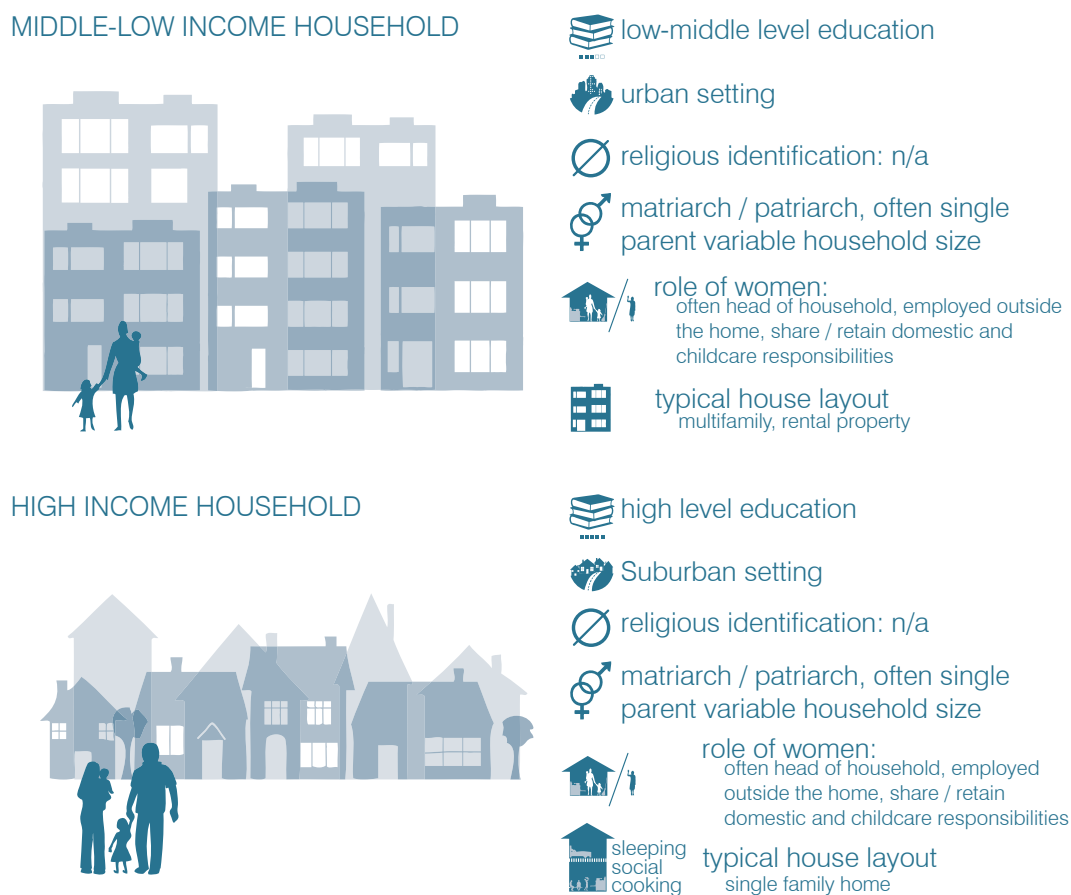


Figure 2.03d: General characteristics of native-born residents

³² Urban Florian, *Tower and slab: histories of global mass housing*, (Milton Park, Abingdon Oxon: Routledge, 2012), 33.

government initiatives, such as HUD's Hope IV and various government-subsidized housing vouchers, have enforced the importance of economic and class integration. According to the Urban Institute,

The goals or purposes claimed for mixed-income housing strategies can be categorized as poverty alleviation (benefiting low-income families), desegregation (affecting both disadvantaged and advantaged neighborhoods which may or may not lead to a number of benefits or challenges to residents), and urban revitalization (bringing investment to disinvested neighborhoods)³³

The biggest shortcoming of mixed-income housing is that social interaction between residents tends to be minimal.³⁴ Therefore, the design of mixed-income housing projects must make a greater effort to incubate social interaction. A study by The Urban Institute found that interaction between residents in a mixed-income housing complex relied on organization of public space- "interaction was more likely among residents when the layout of public spaces led to encounters, even casual ones."³⁵

Removing a person from an unsafe, segregated low-income housing project where the cycle of poverty is repeated for generations and placing them in a better funded, better designed, better maintained, safer environment with more economic and educational opportunities is the main reason for lifestyle improvement found in residents of mixed-income developments. Regardless of a development's design, this upward mobility will be seen, but I, and many others, would suggest that mixed-income communities have failed to meet their potential because of the lack of social interaction impeding integration. For this reason, importance must be placed on design spaces that encourage interaction- this will be discussed in the next section ('Interaction').

33 Diane K. Levy, Zach McDade, and Kassie Dumlao. "Effects from Living in Mixed-Income Communities for Low-Income Families," (Literature Review, The Urban Institute, 2010) <https://www.urban.org/research/publication/effects-living-mixed-income-communities-low-income-families>, 4.

34 Ibid., 17.

35 Ibid., 16.

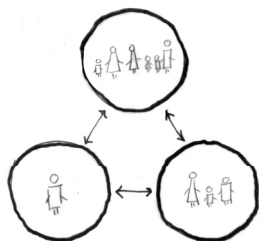


Figure 2.05: Mixed-family type

Mixed Family Size and Structure

Mixing Family types (Figure 2.05) accommodates the diversity of residents, addresses the needs of both single- and family-living in urban environments and provides housing for residents that fit the needs of changing household sizes.

In the US, as in most developed countries, marriage rates have been declining, divorce rates rising and the number of single-adult households growing. Studies show, in the future, this trend will continue; as well as birthrates for out of marriage couples and the number of children living in step- and single-parent homes.³⁶ This reduces the average household size, “cutting the scope for economies of scale and raising income needs of families, and consequently raising the risk of poverty.”³⁷ The Organization for Economic Co-operation and Development (OECD) calls this “fluid family structure”; studies conducted by the OECD have found that increasing fluid family structure also increases the likelihood of people falling in and out of poverty as family sizes change.³⁸ Providing spaces that account for a variety of household sizes allows families to remain in one area or development even as families fluctuate, strengthening community ties and allowing residents to maintain supportive relationships.³⁹

Household structure trends affect housing stock availability and development trends.⁴⁰ In the past five years, the percentage of studio and one-bedroom units being constructed has increased to fit the number of young professionals entering the workforce and delaying marriage and starting a family. Since 2012, the percentage of studio and one-bedroom units in new developments has increased

36 Organisation for Economic Cooperation and Development (OECD). *Future of Families to 2030*. (Paris, France: OECD Publishing, 2011) <http://dx.doi.org/10.1787/97892264168367-en>, 60.

37 Ibid., 62.

38 Ibid., 104.

39 Samantha T. Matuke, “Design Guidelines for Low Income Housing” Retrieved from the University of Minnesota Digital Conservancy, 2016, <http://hdl.handle.net/11299/183265>, 16.

40 Ibid., 18.

by almost 10% (from 45.5% to 54.4%) while the number of new 2 and 3+ units constructed has fallen.⁴¹ This puts increasing strain on larger families as demand for 2+ bedroom apartments increases; this demand is expected to increase as young professionals decide to start families and move to larger units.⁴²

The trend toward smaller unit construction poses a problem for refugee families who often have larger household sizes than native-born individuals. Furthermore, this limits the opportunity for immigrants- who come to the U.S. through family reunification- to find housing with or even near previously resettled family members (discussed more in the 'Adaptation' section). When rental cost for large units are set at a premium, refugees and larger low-income families are priced out of safer, more desirable neighborhoods, further exacerbating integration challenges (as seen in Riverside Plaza in Minneapolis, MN and in Tukwila, WA as discussed in Chapter 1).

Adequate, affordable housing for families with children is especially important when considering the ratio of members to household earners; the greater the members-to-earners ratio, the more likely it is for a household to fall into poverty.⁴³ This is especially damaging to children. An increasing number of studies have shown that children who grow up in poverty face more challenges into adulthood than children who do not grow up in poverty, like carrying a higher risk of being in poverty as adults.⁴⁴ In order to break the cycle of poverty, special consideration must be given to providing affordable housing large families- especially low-income and refugee families.

41 Jay Denton and Axiometrics. "Millennials Drive One-Bedroom Apartment Trend, But That Might Change" November 11, 2015. <https://www.forbes.com/sites/axiometrics/2015/11/11/millennials-drive-one-bedroom-apartment-trend-but-that-might-change/#2a04f10739a9>.

42 Ibid.

43 Organisation for Economic Cooperation and Development (OECD). *Future of Families to 2030*. (Paris, France: OECD Publishing, 2011) <http://dx.doi.org/10.1787/9789264168367-en>, 62.

44 Ibid., 79.

INTEGRATION OF PROGRAM

Diversifying program meets the varying needs of the diverse residents as well as the greater community. Mixed-use development has become a common method of achieving diversity of programs; variations of mixed-use development that will be further discussed include supportive housing and integrated employment.

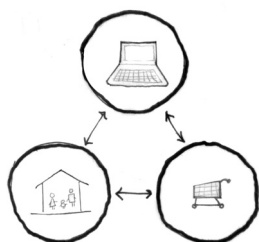


Figure 2.06: Mixed-use

Mixed-Use

To this day, mixed-use (Figure 2.06) developments continues to be a key factor in neighborhood revitalization. Roger Trancik, author of *Finding Lost Space: Theories of Urban Design*, writes of the importance of an integrated approach to urban development. He recognized mixed-use as being one of the key ingredients to this integration:

Spaces that can accommodate mixed or integrated uses have much greater richness and vitality than single-use spaces, which are often static and remain lifeless for substantial periods of time. Design must respond to the dynamics of social uses in its physical form.⁴⁵

Writer and activist, Jane Jacobs, was perhaps one of the first to strongly campaign on behalf of mixed-use in cities. In her book, *The Death and Life of Great American Cities*, Jacobs presents conditions that generate city diversity- the key to successful neighborhoods. Jacobs argues that activity on the street at different times of the day, which promotes street safety, “depends on an economic foundation of basic mixed uses.”⁴⁶ According to Jacobs, a mix of primary and secondary uses creates community diversity. Primary uses might include offices, factories, and dwellings, but can sometimes be places of entertainment, education and recreation- like museums, libraries and galleries.⁴⁷ Primary uses must be mixed to create a vibrant community- “when a primary use is combined, effectively, with another that puts

45 Roger Trancik, *Finding Lost Space: Theories of Urban Design*. (New York, NY: Van Nostrand Reinhold, 1986), 219.

46 Jane Jacobs and Jason Epstein. *The Death and Life of Great American Cities* (New York: Modern Library, 2011), 151.

47 Ibid., 161.

people on the street at different times, then the effect can be economically stimulating: a fertile environment for secondary diversity.”⁴⁸ Secondary uses consist of businesses that grow in response to the diversity created by effective mixing of primary uses- services and shops that serve the people attracted to the area by primary diversity. According to Jacobs,

workers and residents together are able to produce more than the sum of our two parts. The enterprises we are capable of supporting, mutually, draw out onto the sidewalk by evening many more residents than would emerge if the place were moribund ... They attract people who want a change from their neighborhoods, just as we frequently want a change from ours.⁴⁹

Numerous organizations have recognized the effectiveness of program diversity. The Counsel for New Urbanism (CNU) has identified mixed-use as a key component to “good urbanism” and labels walkable, mix-use urban centers as a key components to creating economic stimulus and neighborhood revitalization.⁵⁰

The city of New York recognized the importance of mixed-use so much so that it formed a committee to produce a set of guidelines for design and development of low-income and affordable housing which incorporates a mixed-use element. Vicki Been, Commissioner of the New York City Department of Housing Preservation and Development, is quoted saying,

Good retail space on the ground floor of affordable housing developments plays a critical role in supporting the city’s goal to foster diverse, livable neighborhoods, a key tenet of the Mayor’s Housing New York plan. These guidelines will be used by HPD, other city agencies, community organizations, and developers who work closely with us as

48 Jane Jacobs and Jason Epstein. *The Death and Life of Great American Cities* (New York: Modern Library, 2011), 162.

49 Ibid., 153-54.

50 The Counsel for New Urbanism (CNU). “Economic Benefits.” *CNU*. July 24, 2017. <https://www.cnu.org/resources/economic-benefits>.

we build a more vibrant city.⁵¹

Variations on the concept of mixed-use development include supportive housing and integrated employment which will be discussed in further detail in the next two sections.

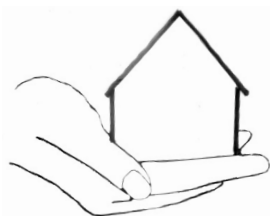


Figure 2.07: Supportive housing

Supportive Housing

Supportive Housing (Figure 2.07) introduces a curated program integrating housing with assistance services. It aims at bringing the organizations already working with refugees on-site so that assistance is easily accessible to residents.

According to the Corporation for Supportive Housing (CSH), supportive services may include case management, mental health services, independent living skills, vocational services, health/medical services, peer support services, and social activities.⁵² All of these services may not be included in a single supportive housing development; instead, the services are carefully curated to meet the needs of the targeted resident group.

There are many different supportive housing models that can be implemented depending on if the units will be located on a single or scattered site and if the development will include solely supportive housing units or supportive housing units integrated with affordable or market-rate units. Single-site, market-rate-integrated supportive housing (the model that will be pursued in this project) “maximizes integration of supportive housing tenants in the community, while

51 Design Trust for Public Space, and NYC Department of Housing Preservation and Development “Design Trust for Public Space and NYC Department of Housing Preservation and Development Issue the First Comprehensive Design Guidelines for Retail and Other Ground-Floor Uses in Affordable Housing Developments.” (News release, NYC Housing Preservation & Development, 2016) <http://www1.nyc.gov/site/hpd/about/press-releases/2016/01/1-26-16.page>

52 Corporation for Supportive Housing (CSH). “Supportive Services.” *CSH: The Source for Housing Solutions*, 2003. <http://www.csh.org/toolkit/public-housing-agencies-toolkit/primer-on-homelessness-and-supportive-housing/supportive-services/>.

also leveraging new and existing market housing stock.”⁵³ Developments that encourage community integration and participation benefit from resident-to-resident interaction, engagement with the greater community, and resident access to community resources.⁵⁴

Integrating supportive housing with mixed-use housing helps residents to embrace community integration through “commodities” and “services” that attract community members to the site and promotes interaction with tenants.⁵⁵ CSH lists several programs that might encourage community interaction including “grocery stores, pharmacies, shopping, recreational activities, employment and volunteering opportunities, faith-based settings, public parks and libraries”, and fitness or wellness centers.⁵⁶ These programs benefit both supportive housing residents, residents in market-rate units and residents of the greater community.⁵⁷ In addition to these programs, community space and open space within the property can become a resource for the greater community, can be used for resident services, and can encourage a sense of shared ownership.⁵⁸

For most refugees resettled across the US, accessing services means traveling from one location to another visiting each agency⁵⁹, but with supportive services integrated with housing, assistance is easily accessible without the need for public transit. Single-site supportive housing not only makes

53 Corporation for Supportive Housing (CSH), “Supportive Housing Integrated Models Toolkit” *CSH: The Source for Housing Solutions*, 2015. <http://www.csh.org/supportive-housing-integrated-models-toolkit/>, 92.

54 Corporation for Supportive Housing (CSH), “Supportive Housing Integrated Models Toolkit” *CSH: The Source for Housing Solutions*, 2015. <http://www.csh.org/supportive-housing-integrated-models-toolkit/>, 13.

55 *Ibid.*, 15.

56 *Ibid.*, 14-15.

57 *Ibid.*, 15.

58 *Ibid.*, 15.

59 Tim Irwin, “For Resettled Refugees in Baltimore, Many Needs, One Destination”, 2010. <http://www.unhcr.org/news/latest/2010/10/4cc160616/resettled-refugees-baltimore-needs-destination.html>.

it easier for refugees to access supportive services, but also allows the support organizations to work together in helping each resident and makes it easier to keep track of a person's progress, identify gaps, and design an assistance approach that meets the needs of each resident on an individual basis.⁶⁰



Figure 2.08: Integrated employment

Integrated Employment

Another variation on the concept of Mixed-Use development (and one that Jane Jacobs begins to reference in her book) are various integrated employment forms (Figure 2.08). There are a number of different integrated employment methods including co-working, makerspaces, and live-work housing. Integrated employment introduces additional job opportunities on site and helps micro-companies and entrepreneurs offset the cost of starting a business by integrating office or production space into their residential unit or programs for sharing it with others.⁶¹

According to the United Nations Department of Economic and Social Affairs Division for Social Policy and Development, employment is directly related to social integration:

Full employment, self-employment or adequately remunerated work is an effective method of combating poverty and promoting social integration and social inclusion. When members of society have work, they automatically become stakeholders in the economic realm. Engagement in and access to the labor market is therefore the first and most important step in participation in the economic processes of society, and employment and self-employment are the most salient aspects of economic inclusion. Employment also acts as a source of identity and

60 Tim Irwin, "For Resettled Refugees in Baltimore, Many Needs, One Destination", 2010. <http://www.unhcr.org/news/latest/2010/10/4cc160616/resettled-refugees-baltimore-needs-destination.html>.

61 Brentin Mock, "Matching Affordable Housing with Affordable Working" 2015. <https://www.citylab.com/life/2015/06/matching-affordable-housing-with-affordable-working/394790/>.

gives access to a social network.⁶²

Like mixed-use, integrated employment also reduces sprawl as well as the cost of transportation by encouraging proximity between housing and places of work. Traditional zoning creates zones of desertion at different times of the day. During the day, while most people are at work, residential areas tend to be empty; conversely, in the evening, downtown cores are deserted after workers leave at the end of their work days. By combining housing and office space, integrated employment combats the problems of traditional zoning by promoting activity at all times of day and reducing transportation problems such as “rush-hour” created by separation of commercial and residential zones.⁶³ Additionally, by introducing job opportunities on-site with residences, parents are able to work close to home- reducing the need for traditional childcare and increasing the opportunity for family engagement.

Live-work housing provides flexible unit layouts that can double as office space to support entrepreneurs and allow parents to work from home.⁶⁴ This form of housing is becoming increasingly prevalent in many new housing developments as technology enables many people to work from home.⁶⁵ While live-work addresses many of the problems of current city zoning structures, there is concern that it will reduce face-to-face interaction for residents leading to further seclusion. Consequently, housing design must focus on resident and non-resident interaction and provide programs on-site that draw residents out of their unit allowing

62 DESA. “Creating an Inclusive Society: Practical Strategies to Promote Social Integration” (Report, *The United Nations Department of Economic and Social Affairs (DESA)*, 2009) <https://www.un.org/development/desa/dspd/2018-expert-group-meetings-and-panel-discussions/2017egms/2016-expert-group-meetings-and-panel-discussions/2015-undesadspd-expert-group-meetings-panel-discussions/2009-2/practical-strategies-to-promote-social-integration.html>, 18.

63 Roger Trancik, *Finding Lost Space: Theories of Urban Design* (New York, NY: Van Nostrand Reinhold, 1986), 219.

64 Thomas Dolan, *Live-work Planning and Design: Zero-commute Housing* (Hoboken, N.J.: John Wiley & Sons, 2012), xi.

65 Ibid., xi.

other opportunities for interaction.

Co-working and makerspaces can provide a similar benefit to live-work while also addressing the concern over resident seclusion. Co-working spaces provide a variety of flexible, supportive, communal work-spaces to support entrepreneurs with meeting rooms which can double as spaces for supportive services such as a classroom for skill training and business development.

Makerspaces are like co-working spaces for artists, creators, and industrial workers where, space, tools, material, and skills can be shared by participants.⁶⁶ Low-income communities and immigrant populations often have a history of home-based businesses but lack the disposable income to invest in a workspace or tools. Ilana Preuss, founder of Recast City, wonders, “what if they had a space where they had access to tools and could take business-development classes in their own language and were paired with someone who can help get their business running on Etsy?”⁶⁷ Makerspaces provide support for creators to develop their skills into profitable skills.

There is huge potential in participating in co-working spaces and makerspaces which benefit from peer collaboration and support.



Figure 2.09: Interaction between the users

INTERACTION

[Promoting Interaction between the Users] (Figure 2.09)

As mentioned in the previous section, promoting interaction between the diverse users is the key to community integration. The connection between interaction and placemaking through public space is linked by the Project for Public Space’s definition for placemaking: “the art and science of developing public spaces that attract people, build

⁶⁶ Brentin Mock, “Matching Affordable Housing with Affordable Working” 2015. <https://www.citylab.com/life/2015/06/matching-affordable-housing-with-affordable-working/394790/>.

⁶⁷ Ibid.

community by bringing people together, and creates local identity".⁶⁸

Places of interaction are especially important for children of refugees, because children and teens often pick up English faster than adults and can be catalysts for "social bridging".⁶⁹ Spaces that accommodate after-school programs, weekend activities, and community events can host interaction opportunities outside of school; locating these spaces on-site makes it easier and more likely for refugees to attend such an event that might otherwise be out of their comfort zone.

Programing for adults creates additional opportunities for refugee integration independent of adolescents. Programs such as "arts and crafts and even small-scale agriculture, using food as a vehicle for connection and positive response at farmers' markets, cooking exhibits, and urban farms."⁷⁰

Interaction can be addressed through four strategies: programmatic elements used by all residents as well as community members to increase interaction of users; porosity at the ground level to reinforce interaction through transparency between the shared program and to expand visibility both of people and available programs; connection to existing mobility systems- rail, bus, biking, and walking- to enhance pedestrian traffic through the site; and various public community spaces of differing sizes and characteristics that can accommodate casual and intentional interaction. The key to integrating public community spaces that promote interaction within a housing complex is to carefully balance the interface of public and private spaces.

68 Samantha T. Matuke, "Design Guidelines for Low Income Housing" Retrieved from the University of Minnesota Digital Conservancy, 2016, <http://hdl.handle.net/11299/183265>, 14.

69 John Converse Townsend, "How to Make It as a Refugee in America." *Fast Company*, 2016. <https://www.fastcompany.com/3063489/how-to-make-it-as-a-refugee-in-america-2>.

70 Ibid.

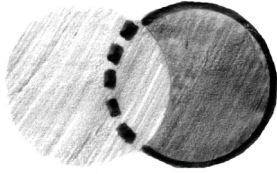


Figure 2.10: Public-private integration

Public-Private Integration

The aim of public-private integration (Figure 2.10) is to encourage interaction between residents and with the greater community without separating residents from public spaces or, conversely, causing residents to feel exposed or vulnerable within their homes. Designing spaces that promote interaction comes down to careful balance between the integration and separation of public and private spaces. In her doctoral thesis, “Finding the Idea of Home”, Shannon Pirie discusses the use of “buffer” spaces between public and private domains:

Certain adjacencies of function can increase or reduce the distance between public and private realms, creating a desired effect linked to a positive perception of home. This becomes increasingly interesting in certain social and affordable housing projects due to a need to maximize square footage. The challenge to create these “buffer” type spaces can make for a less personal outcome, making personal spaces feel too exposed to the public domain.⁷¹

The objective is to create a kind of gradation of buffer spaces that more gently separate the public and private realm- much like the thresholds between the street, sidewalk, front yard, porch, and front door in a typical suburban neighborhood. This results in a careful mixing of publicly and privately used spaces.

In his essay, “The Open City”, Urban Designer and Professor, Richard Sennett, discusses the edges of neighborhoods as being the most interactive places of the city where different groups meet. He relates this idea to Steven Gould’s study of edge types- boundaries and borders- in natural ecologies.⁷² He equates boundaries to walls, “an edge where things end”, and borders to cell walls, “an edge where difference groups interact”.⁷³ Borders are where different species or physical conditions interact and become more interactive. Spaces of public-private integration can act

71 Shannon Pirie, *Finding the Idea of Home* (PhD diss., Université de Montréal, 2014), 79, <http://hdl.handle.net/1866/15963>.

72 Richard Sennett, “The Open City” 2006. <https://www.richardsennett.com/site/senn/UploadedResources/The%20Open%20City.pdf>, 8.

73 Ibid., 8.

like these borders.

Jane Jacobs' view of the sidewalk is akin to Sennett's idea of the function of public place as ecological borders. In Jacob's own words, the city sidewalk "brings together people who do not know each other in an intimate, private social fashion"⁷⁴ just as natural borders do.

We can use Sennett's Open City theory in siting a new development, but also in programmatic organization. Imagine applying this theory not only on a large-scale urban masterplan, but on a smaller scale- that of the building or site. At the edge of public and private space is where the most interaction takes place between residents and with the greater community.

Sennett advocates for locating "new community resources at the edges between communities, in order, as it were, to make porous borders."⁷⁵ This same concept can be applied to spaces between public and private areas. This can lead to activation of an otherwise empty space and can use semi-public space to screen private space. This leads to a series of gradient spaces varying from public to private spaces with transitional semi-public spaces between. Layering spaces from public to private leads to casual interactions, resident connectivity, and community making.

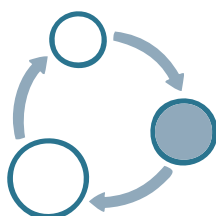


Figure 2.11: Designing for flexibility, adaptability, and customization

ADAPTATION

[Designing for Flexibility Adaptability, and Customization] (Figure 2.11)

Flexibility of spaces aims to accommodate the variety cultural differences between refugee families and anticipate the differences in how one family may use their space from another. Mary Wiltenburg, a reporter who focuses on refugee issue and author of "What It's Like to be a Refugee

⁷⁴ Jane Jacobs and Jason Epstein. *The Death and Life of Great American Cities* (New York: Modern Library, 2011), 32.

⁷⁵ Richard Sennett, "The Open City" 2006. <https://www.richardsennett.com/site/senn/UploadedResources/The%20Open%20City.pdf>, 10.

in America”, discusses the importance of recognizing the diversity of the U.S. Refugee Resettlement Program. Wiltenburg expresses the sentiment of those across the country involved in resettlement- “embracing an ever-more-diverse influx of refugees – from the Burmese rice farmer to the Iraqi accountant – has overwhelmed the one-size-fits-all system, as well as the funding supporting it.”⁷⁶ According to Elizabeth Campbell, director of the Refugee Council USA, a coalition of 25 nonprofits, it is this diversity that is both the strength and the weakness of the US refugee program⁷⁷ and must be addressed to provide successful resettlement.

Additional adaptability aims to accommodate changing family over time. This directly addresses the mixing of family types mentioned in the “Integration of people and programs” section and engages ever-changing fluid family structure. For refugees in particular, families often grow suddenly through family-reunification. In this case, it is important for the architecture to adapt to accommodate the growing family to allow reunified families to remain together.

Family Reunification

For all immigration in the U.S., including refugee resettlement, family reunification is the largest of four main paths through which individuals qualify for admission and permanent residence.⁷⁸ For refugees coming to the United States, families expanding due to family reunification is common. UNHCR, has a strong stance when it comes to the importance of the maintenance of the family unit and family reunification for resettled refugees:

Family reunification plays a significant role in meeting the long-term needs of resettled refugees and assists them to adjust and integrate to the country of resettlement. The family is often the strongest and most effective emotional,

76 Mary Wiltenburg, “What It’s Like to be a Refugee in America” 2009. <https://pulitzercenter.org/reporting/what-its-be-refugee-america>.

77 Ibid.

78 Ramah McKay, “Family Reunification,” 2017. <https://www.migrationpolicy.org/article/family-reunification>.

social and economic support network for a refugee making the difficult adjustment to a new culture and social framework.⁷⁹

Family reunification is important for receiving countries as well. According to UNHCR, policies and program “that enhance the unity of the family after the initial resettlement,” strengths “the capacity of individuals to function in their new countries, facilitating their integration process and promoting social and economic selfsufficiency” and enhances “integration prospects” and lowers social costs for resettling countries in the long term⁸⁰

With this diversity of cultures, languages, educational experiences, needs and family structures, the services and housing provided to asylum seekers must adapt to diverse and constantly changing refugee households.

MATERIALITY

The aim of this project is to bring together a number of diverse people, programs, ethnicities, and economic levels to develop a mutually beneficial community. The material choices should reflect this diversity. Juxtaposed materials are joined together to represent this integration. Four contrasted combinations have been explored through simple concrete objects: (1) transparent and opaque, (2) solid and void, (3) natural and manufactured, and (4) anti-integrated materials (Figure 2.12).

Transparent-Opaque is expressed through combining concrete and acrylic materials. The created object represents two distinct materials working together to suggest one form.

Solid-Void is represented with the subtraction of

79 UN High Commissioner for Refugees (UNHCR), *Protecting the Family: Challenges in Implementing Policy in the Resettlement Context*, 2001, <http://www.unhcr.org/protection/resettlement/3b30baa04/background-note-agenda-item-family-reunification-context-resettlement-integration.html>, 2.

80 Ibid., 2.

a material from the object. The final product suggests a complete form despite the absence of material.

Natural-Manufactured is created by combining concrete with both natural wood and vegetation. In this case, the natural material alters the perception of the structural material.

Anti-Integrated or **Additive Materials** are articulated through association of two completely separate materials. These materials are clearly interacting, yet, they do not affect each other's form.

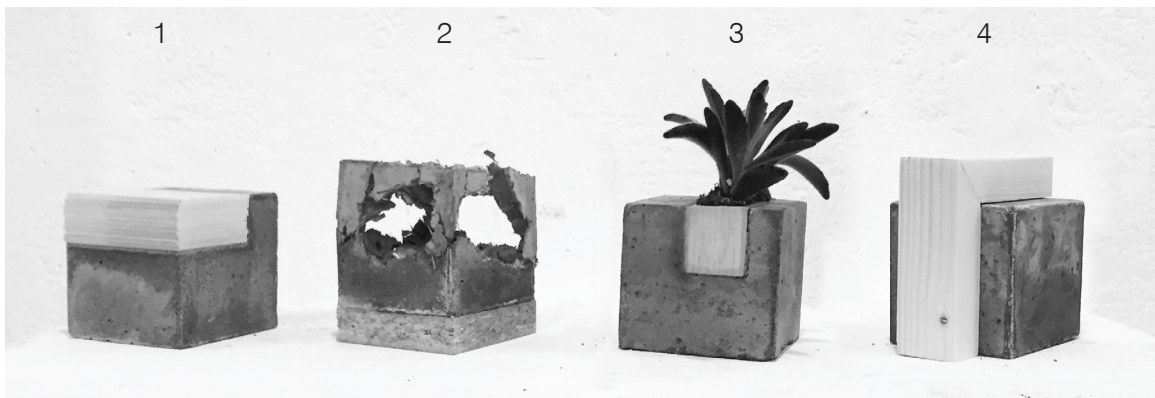


Figure 2.12: Models representing juxtaposition of materials

FORM

The forms explored in this project aim to build off the juxtaposition of materials already presented (Figure 2.13).

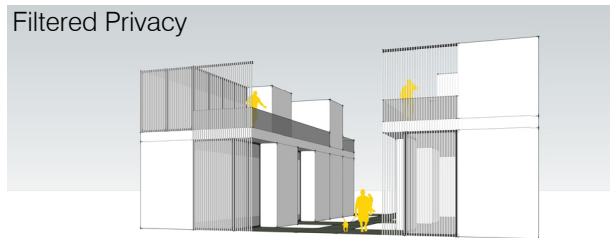
Transparent-Opaque can produce visual connectivity, filtered privacy and framed views.

Solid-Void forms entries, portals and open spaces.

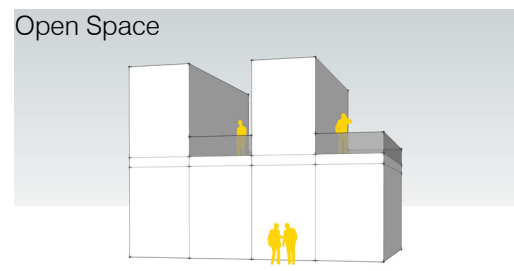
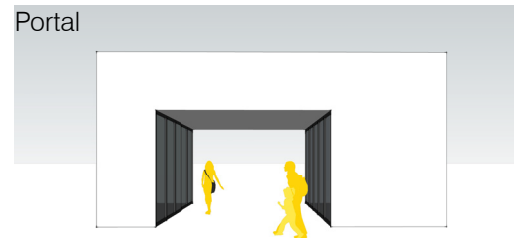
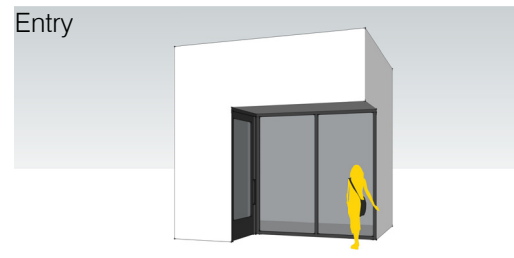
Natural-Manufactured defines private or public open space and directional pedestrian space.

Anti-Integrated or **Additive Materials** designates commercial space from residential and can express hierarchy of program and space.

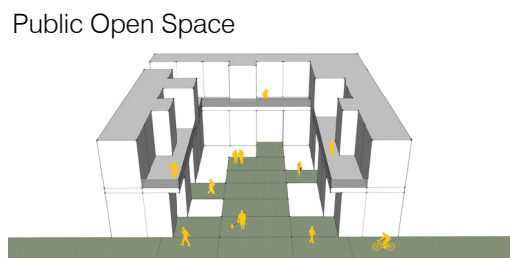
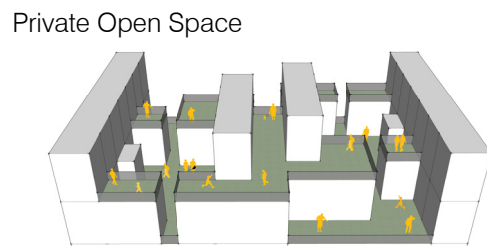
TRANSPARENT-OPAQUE AS...



SOLID-VOID AS...



NATURAL-MANUFACTURED AS...



ADDITIVE MATERIALS AS...

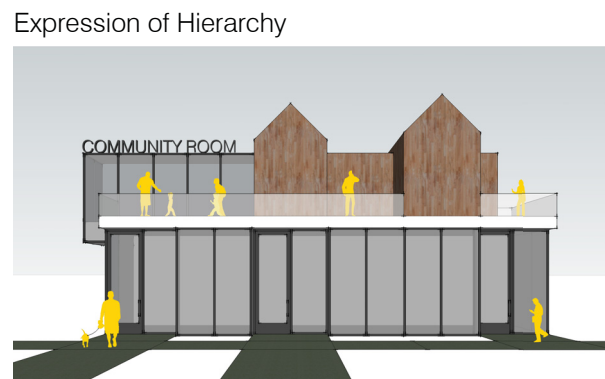


Figure 2.13: Conceptualization of forms building off juxtaposing materials previously explored

CHAPTER 3: DESIGN SOLUTION

SITE SELECTION

CITY SCALE

I chose the city of Chicago for my site because Chicago has a long history of resettling immigrants and refugees in the city and suburbs. In 2016 alone, Illinois welcomed over 3,000 refugees with over half going to Chicago proper, according to the Illinois Refugee Program Fiscal Year 2016 Annual Report,⁸¹ ranking it 8th in the country for refugee resettlement.⁸² Chicago is home to 8 of the 9 national VOLAGs resettling refugees- the most seen in any city in the U.S.⁸³ Chicago Counsel on Global Affairs' assistant director of immigration, Sara McElmurry, writes about the city's continued support of refugees:

Chicago, with its long history as a gateway city for immigrants and refugees, provides a strong blueprint for a collaborative civic response to refugee resettlement... As a region, the Midwest has seen unprecedented commitment from local leaders in building city-level programs to welcome newcomers in recent years.⁸⁴

Chicago is a diverse city made up of distinct neighborhoods often based on historic ethnic settlement. With this ethnic diversity comes Some areas of the city are far more diverse than others.

To locate potential sites, I mapped the diversity rating of the area and overlaid Chicago's well-established public transit

81 Illinois Refugee Resettlement Program, "Illinois Refugee Program Fiscal Year 2016 Annual Report," (Report, *Illinois Department of Human Services - Bureau of Refugee and Immigrant Services*, 2016) <https://publish.illinois.edu/projectwelcome/summit/resources/>.

82 Sara McElmurry, "As World Leaders Meet on Refugees, Cities Welcome Newcomers", 2016. <https://www.thechicagocouncil.org/blog/global-insight/world-leaders-meet-refugees-cities-welcome-newcomers?page=15>.

83 "Affiliate Pin Map Large FY 2016" *Refugee Processing Center*, 2015. <http://www.wrapsnet.org/rp-agency-contacts/>.

84 Sara McElmurry, "As World Leaders Meet on Refugees, Cities Welcome Newcomers", 2016. <https://www.thechicagocouncil.org/blog/global-insight/world-leaders-meet-refugees-cities-welcome-newcomers?page=15>.

system then identified areas where high diversity overlaps with major public transit lines (Figure 3.01). I identified four areas as potential sites. I compared these locations to each other by mapping existing refugee support organizations and identifying two areas that could accommodate refugee resettlement (Figure 3.02). Ultimately, I chose the South Loop Neighborhood.

NEIGHBORHOOD SCALE

Within approximately a 1-mile radius of the site there are many significant neighborhoods including the commercial center or the Loop to the north, Grant Park to the north-east, Museum Campus to the east, Chinatown to the south, Little Italy and the University of Illinois's Chicago campus to the west, and Greektown to the northwest.

Several surrounding neighborhoods are ranked quite high on the city's diversity scale including Bridgeport, Little Italy, and the Near South Side- ranked 2rd, 3rd and 9th respectively⁸⁵ (out of 94 ranked neighborhoods) (Figure 3.03).

These neighborhoods are disjointed due to the historically industrial and now vacant land separating the sites. An anchor at this site could act to tie together these separate neighborhoods and be a catalyst for further community development on Chicago's southside.

The south loop has seen a huge amount of development in the past 10 years (Figure 3.04). Where it was once an expansive landscape of abandoned industrial sites and surface parking lots, it is now one of the city's most rapidly growing communities.⁸⁶ Seven new building projects have been completed since 2009 with another four projects on the way.

85 "2018 Most Diverse Neighborhoods of Chicago." Niche, 2018. <https://www.niche.com/places-to-live/search/most-diverse-neighborhoods/t/chicago-cook-il/>.

86 Alby Gallun, "Residential Developers Have Big Plans (Again) for South Loop," 2015. <http://www.chicagobusiness.com/article/20150117/ISSUE01/301179980/residential-developers-have-big-plans-again-for-south-loop>.

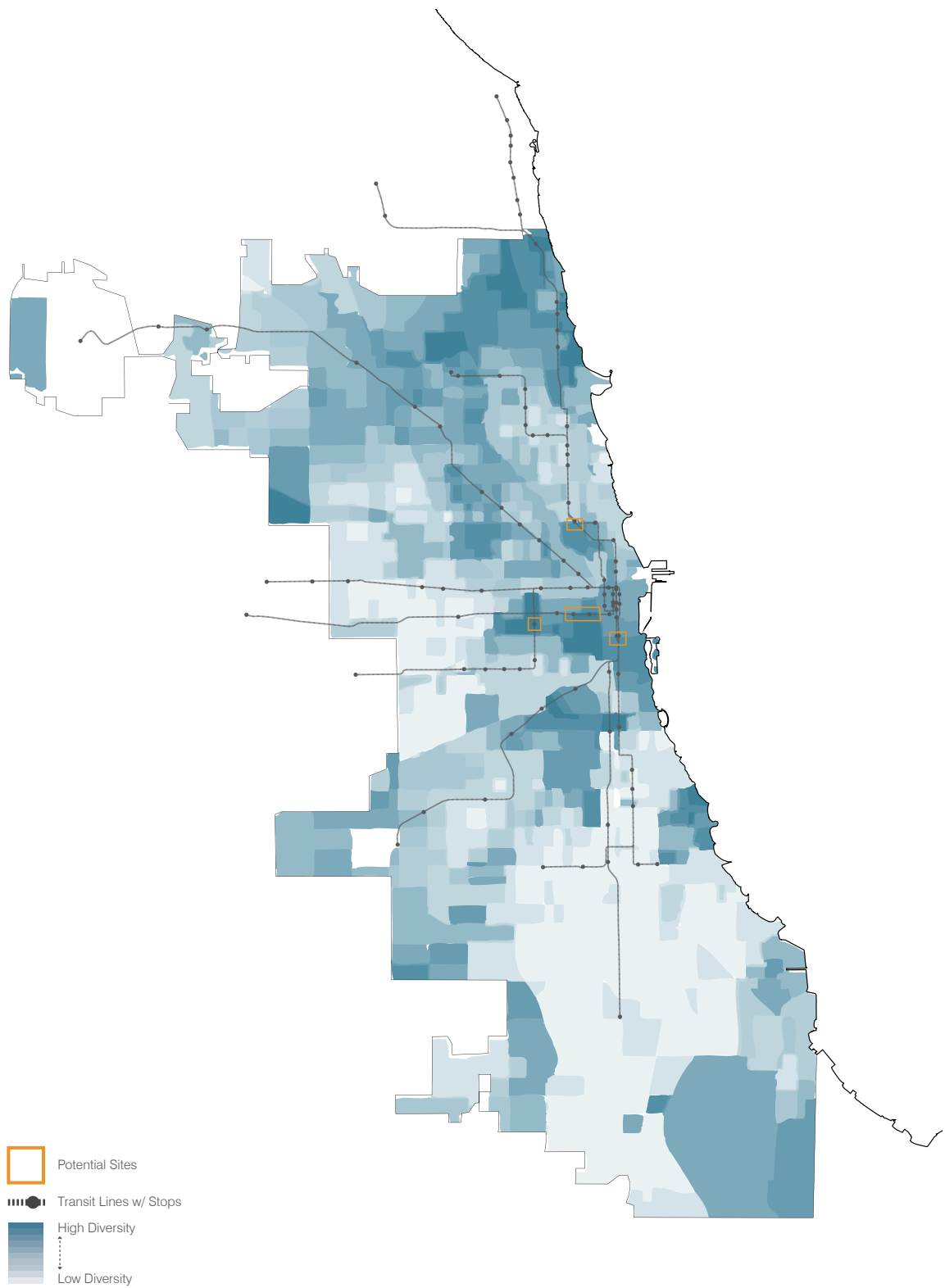


Figure 3.01: City of Chicago. Diversity ranking overlaid with public transit lines and stops with potential sites outlined
(Adapted from Chicago Diversity Index; digital image by Chris Dickersin-Prokopp)

As is evident in map (Figure 3.04), there is a significant swath of undeveloped land along the river in the South Loop Neighborhood. I choose a site across from a K-12 international school that is currently a surface parking lot with no connection to the river.

Despite all the development in the South Loop, there is very little affordable housing in the neighborhood (Figure 3.05). Most of the new development is solely residential or mixed-use residential. Due to the historic vacancy of the area, aside from residential and retail program there's very little cultural program in the neighborhood effectively creating a cultural dead zone in what could otherwise be a vibrant neighborhood.

The neighborhood desperately needs two things: affordable housing and a community hub which can act as an anchor that stitches together the diverse communities surrounding the site. This site adjacent to an existing school is the prime location for a mixed use, community-integrated housing development.

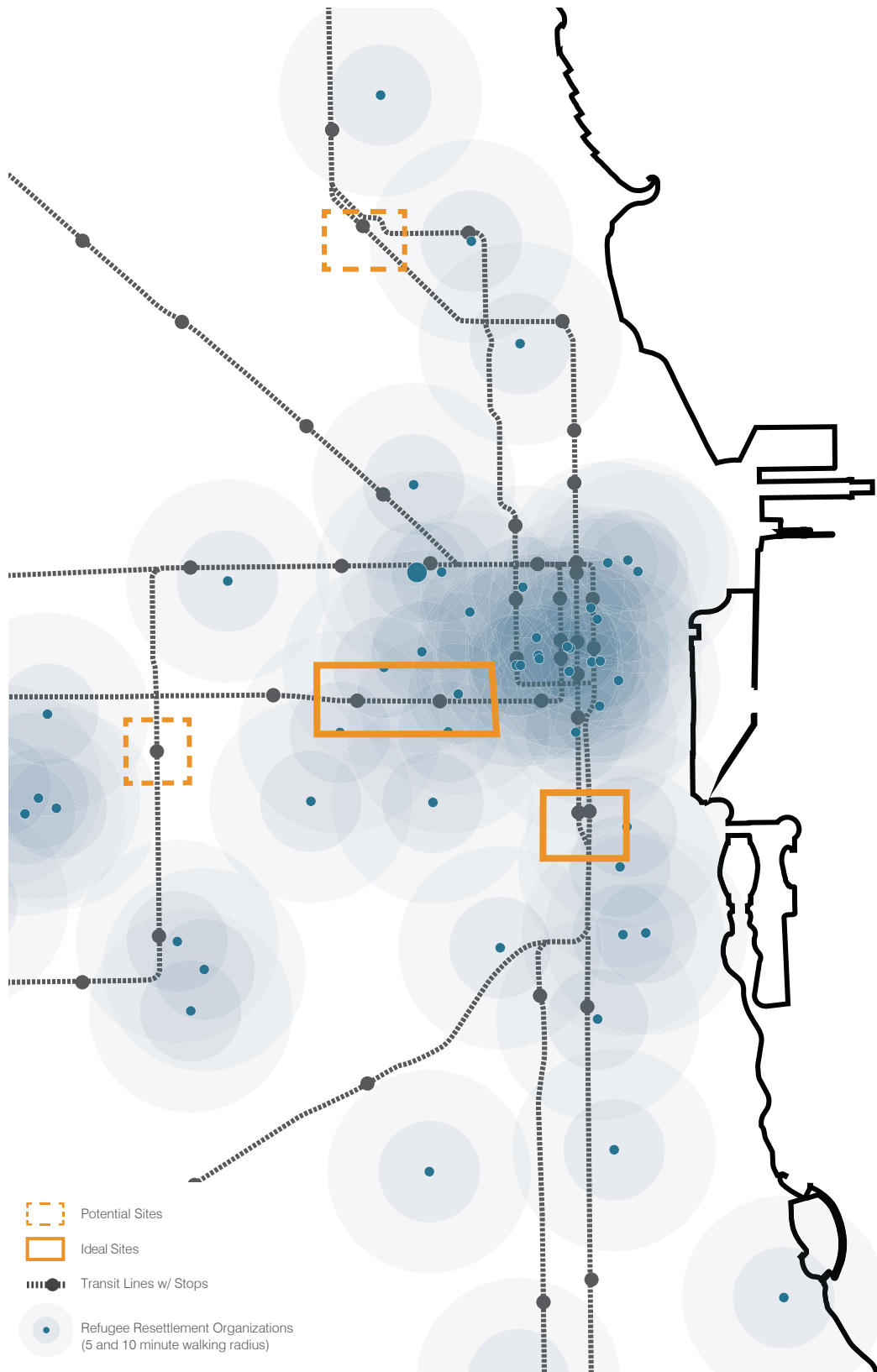


Figure 3.02: Existing refugee support organizations and major public transit lines and stops with potential sites outlined (Adapted from Google Maps, 2018.)

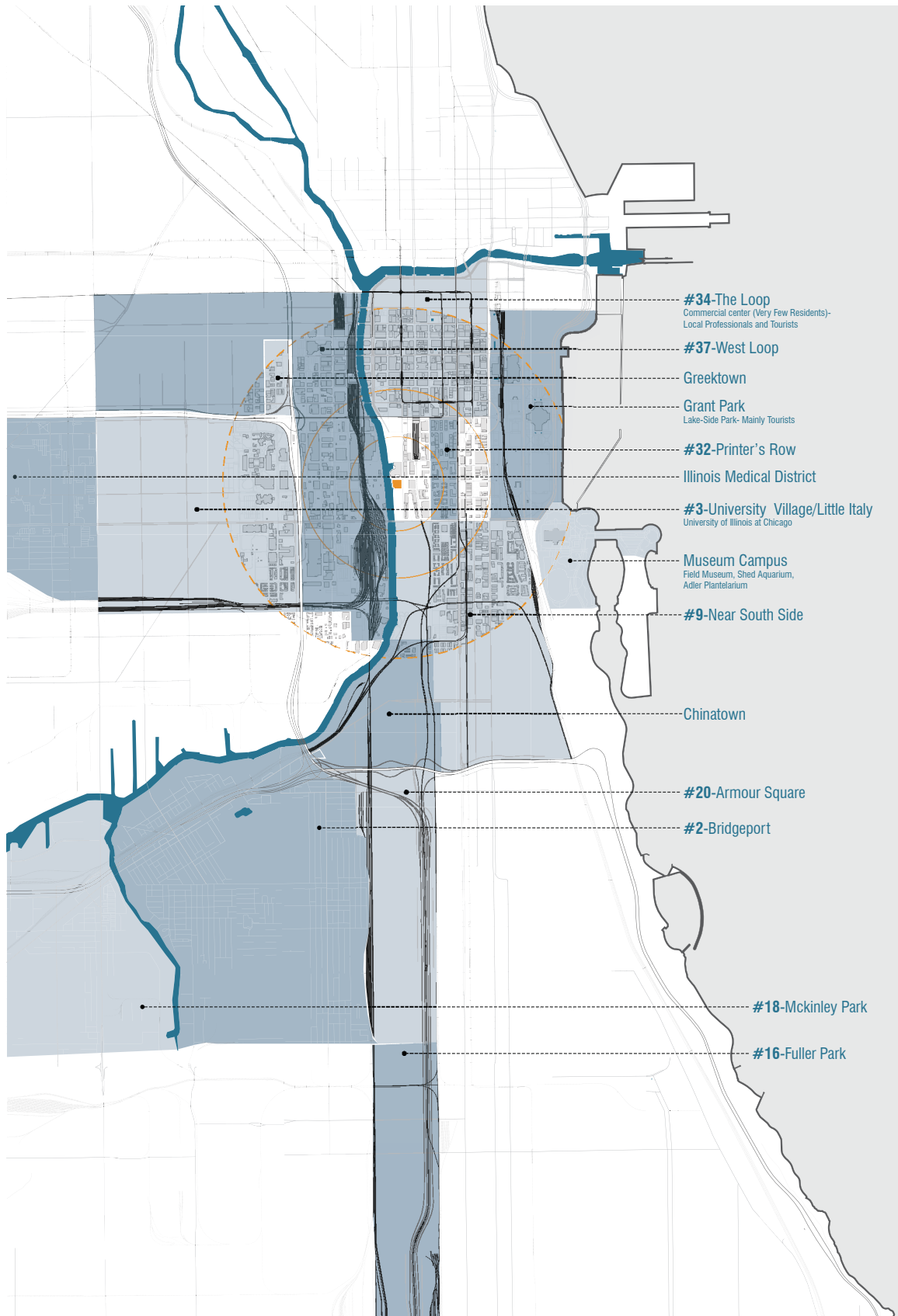


Figure 3.03: Notable surrounding neighborhoods (w/ diversity ranking out of 94)

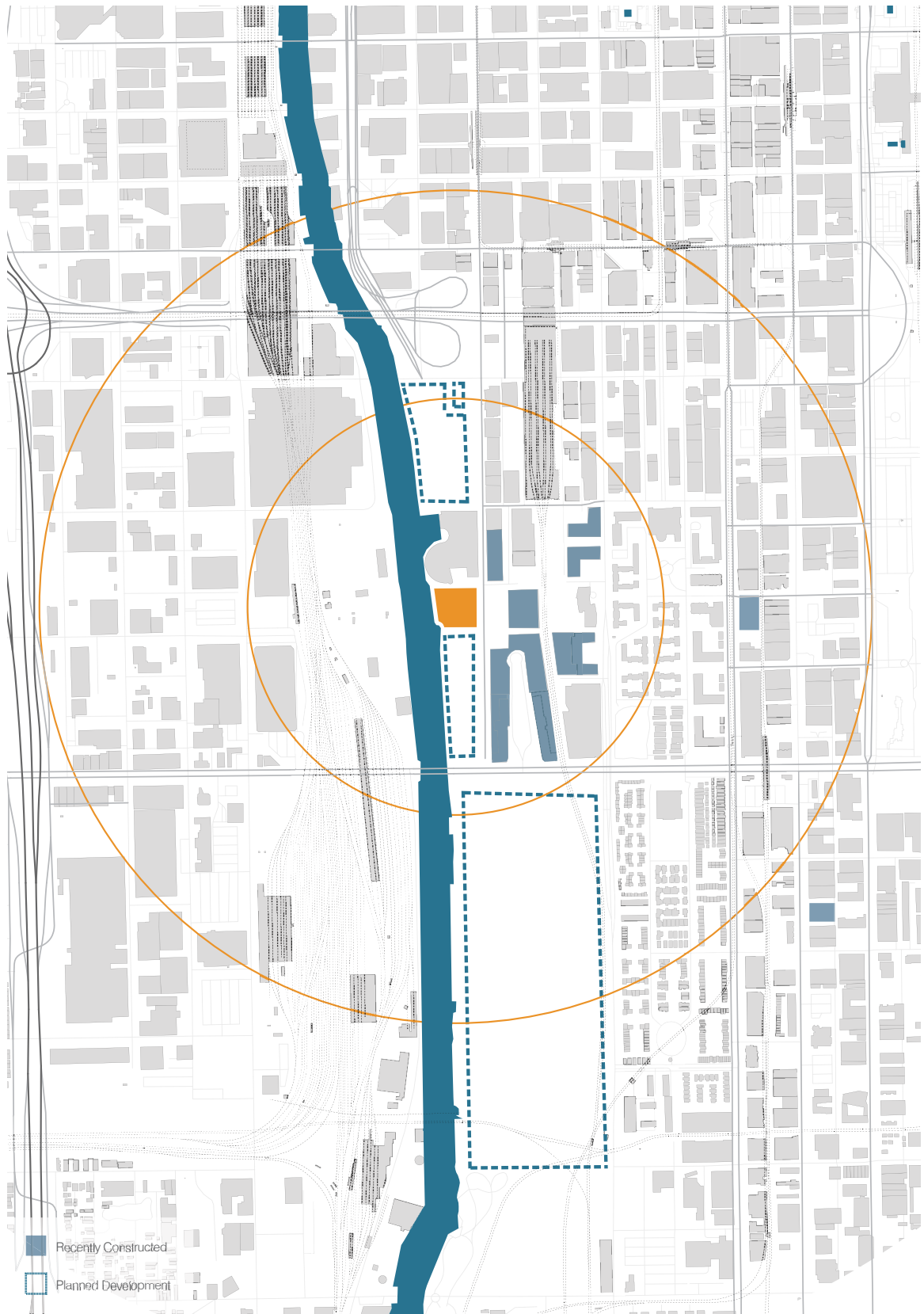


Figure 3.04: Map of South Loop developments
(Adapted from South Loop Growth Spurt; digital image by Alby Gallun)

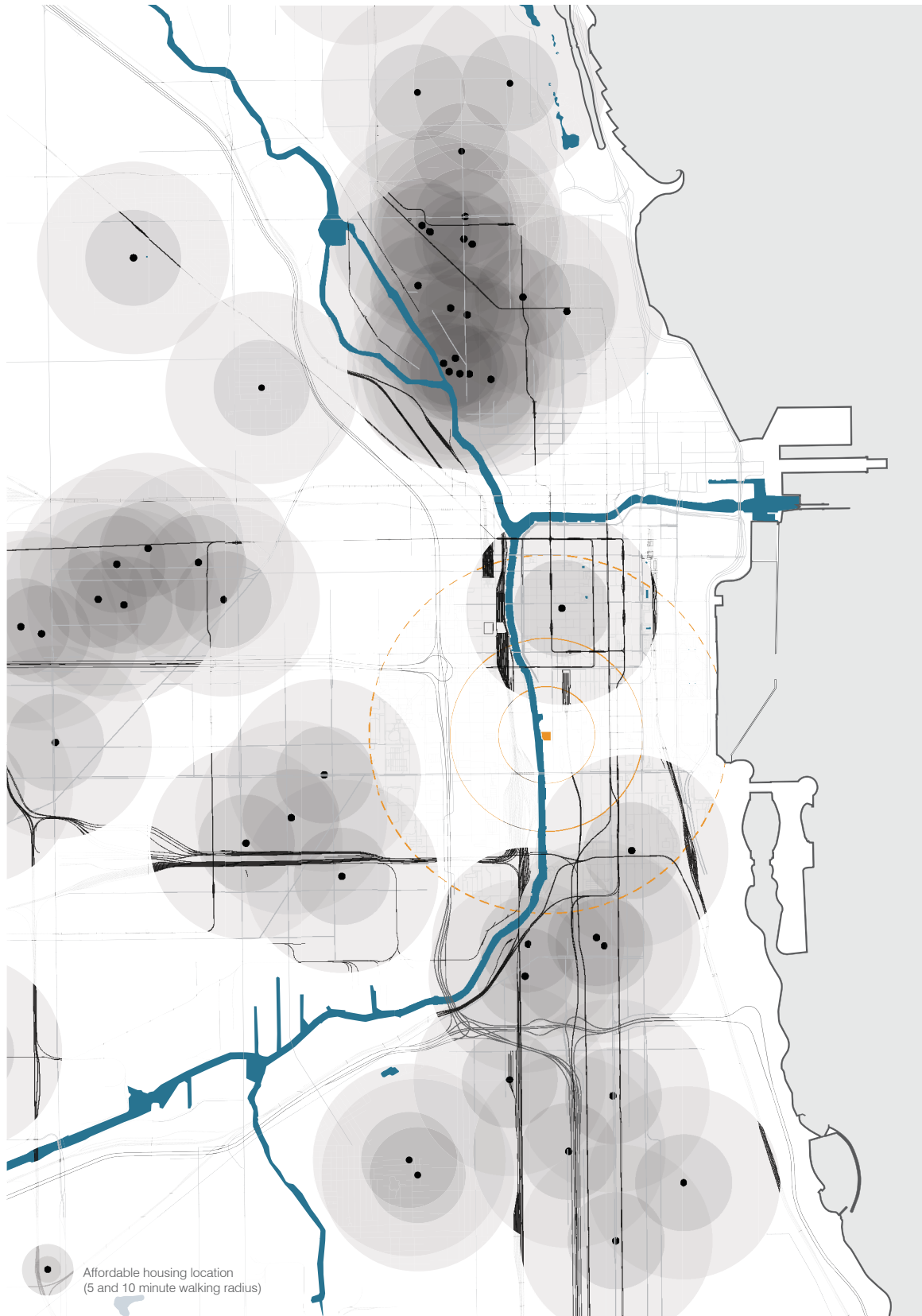
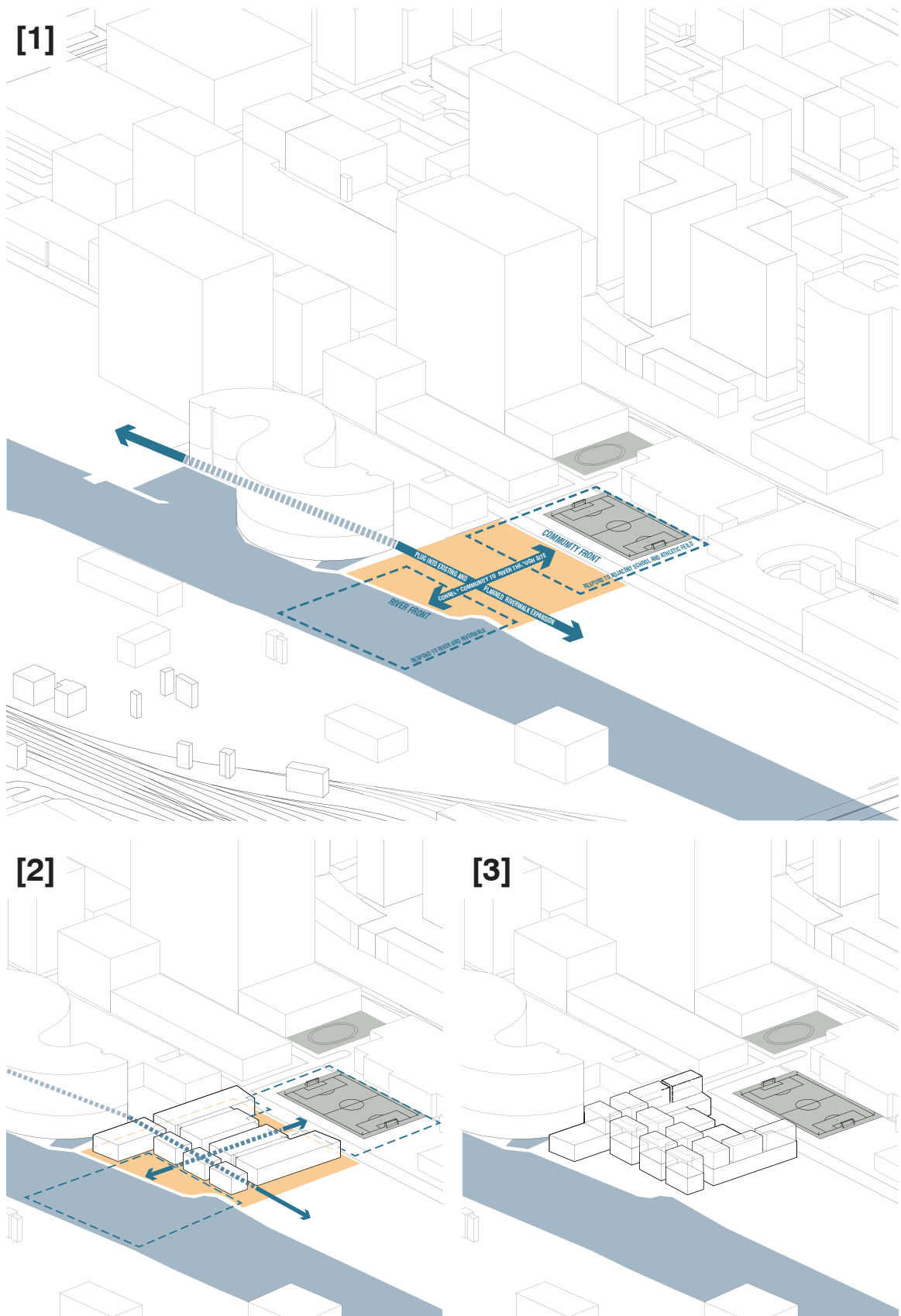


Figure 3.05: Existing affordable housing locations
(Adapted from CHA Public Housing Database; digital map by Chicago Housing Authority)

SITE ANALYSIS

I began to analyze the site and set up a few guiding principles for development of the site. The project must be rooted in the existing context of the city and therefore must address both the community front- adjacent to the school- and the river front (Figure 3.06). The ground floor must be porous in order to promote a connection between the community and the river and also connect to the existing and planned extension of the Chicago Riverwalk.



APPLYING DESIGN GUIDELINES

Taking these site-specific design guidelines, I then began to take the Refugee Housing Design Principles-Integration, Interaction, and Adaptation- and apply them to the site.

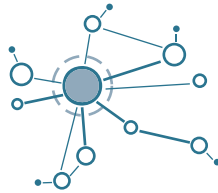


Figure 3.07: Integration of people and programs

INTEGRATION

[Integration of People and Programs] (Figure 3.07)

The program of the building responds to the needs of the diverse residents: low, middle, and high earning households, refugee families, and the greater community (Figure 3.08). Programs such as education (Figure 3.09), health (Figure 3.10), mobility (Figure 3.11), commercial shopping (Figure 3.12) are well accommodated by the surrounding neighborhood. However, the site is lacking affordable housing (Figure 3.05), recreation (Figure 3.10), cultural (Figure 3.13), employment, and a centralized refugee support office. The program on the site will attempt to fill the deficiencies found in the context of the neighborhood.

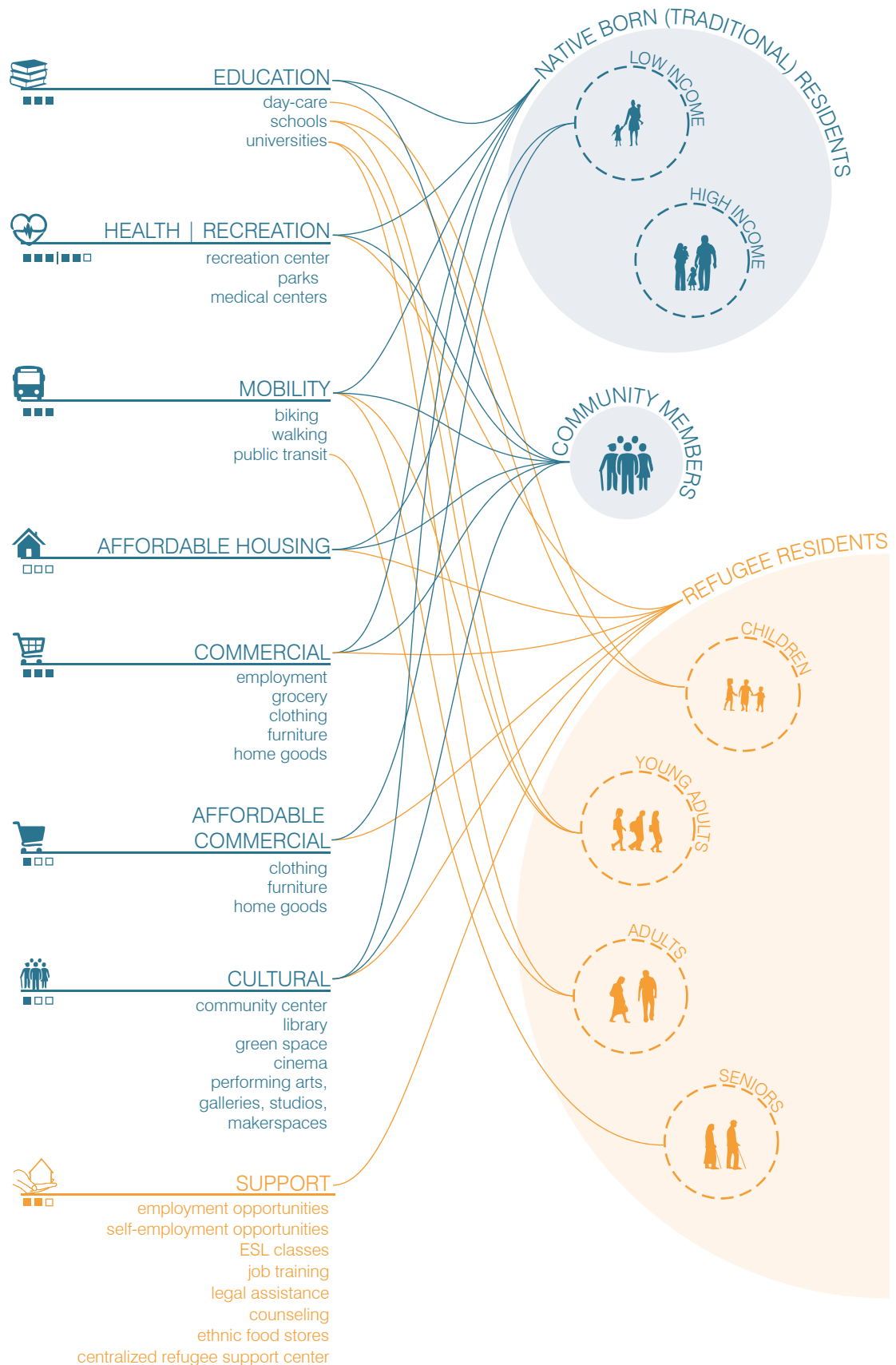


Figure 3.08: Programmatic needs of the various users showing an analysis of how well the neighborhood accommodates these needs. See following maps: Figures 3.09-13

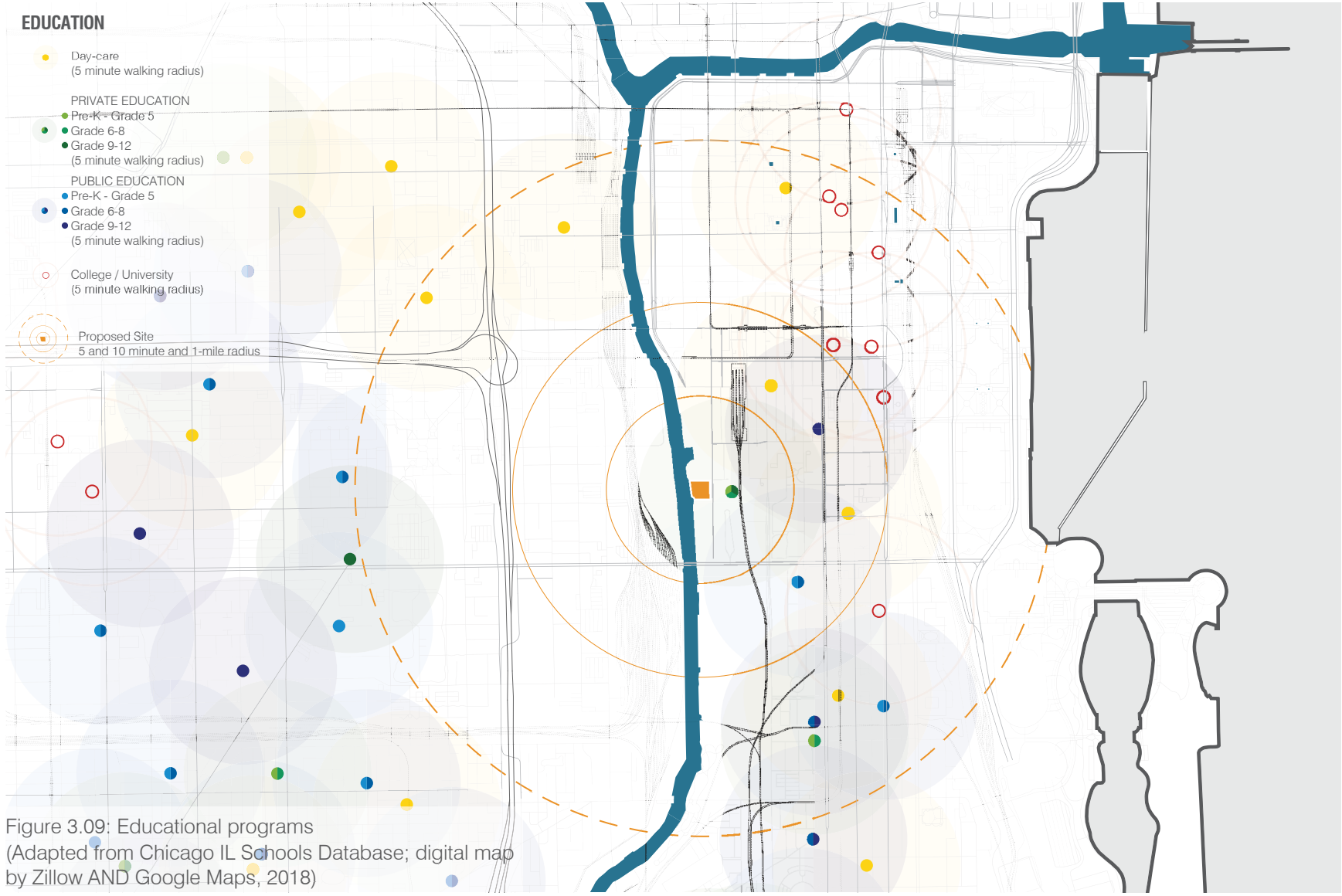


Figure 3.09: Educational programs
 (Adapted from Chicago IL Schools Database; digital map
 by Zillow AND Google Maps, 2018)



Figure 3.10: Health and recreational program
 (Adapted from Chicago Park District Park/
 Facility Database; digital map by Chicago
 Park District AND Google Maps, 2018)

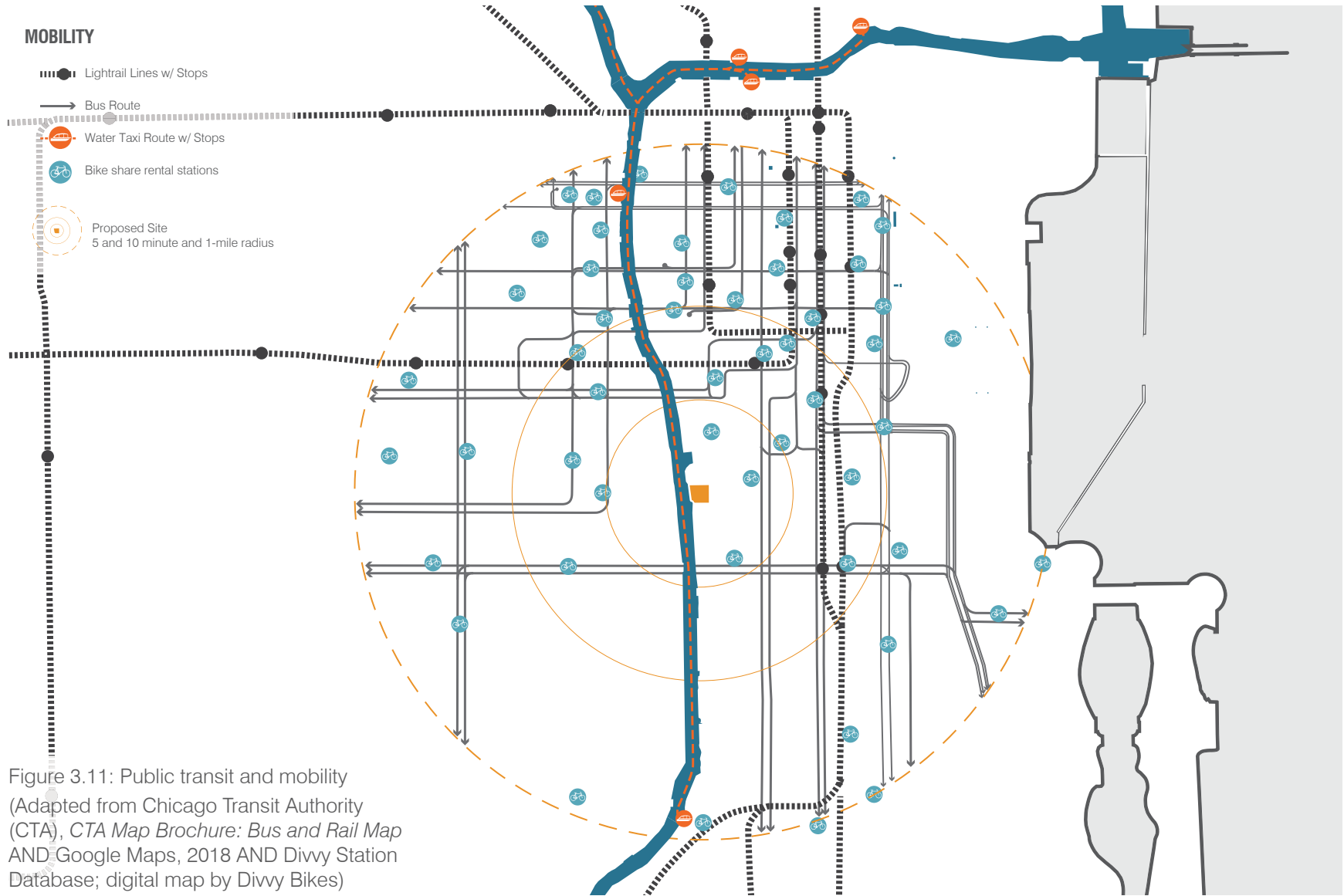


Figure 3.11: Public transit and mobility
 (Adapted from Chicago Transit Authority (CTA), *CTA Map Brochure: Bus and Rail Map* AND Google Maps, 2018 AND Divvy Station Database; digital map by Divvy Bikes)

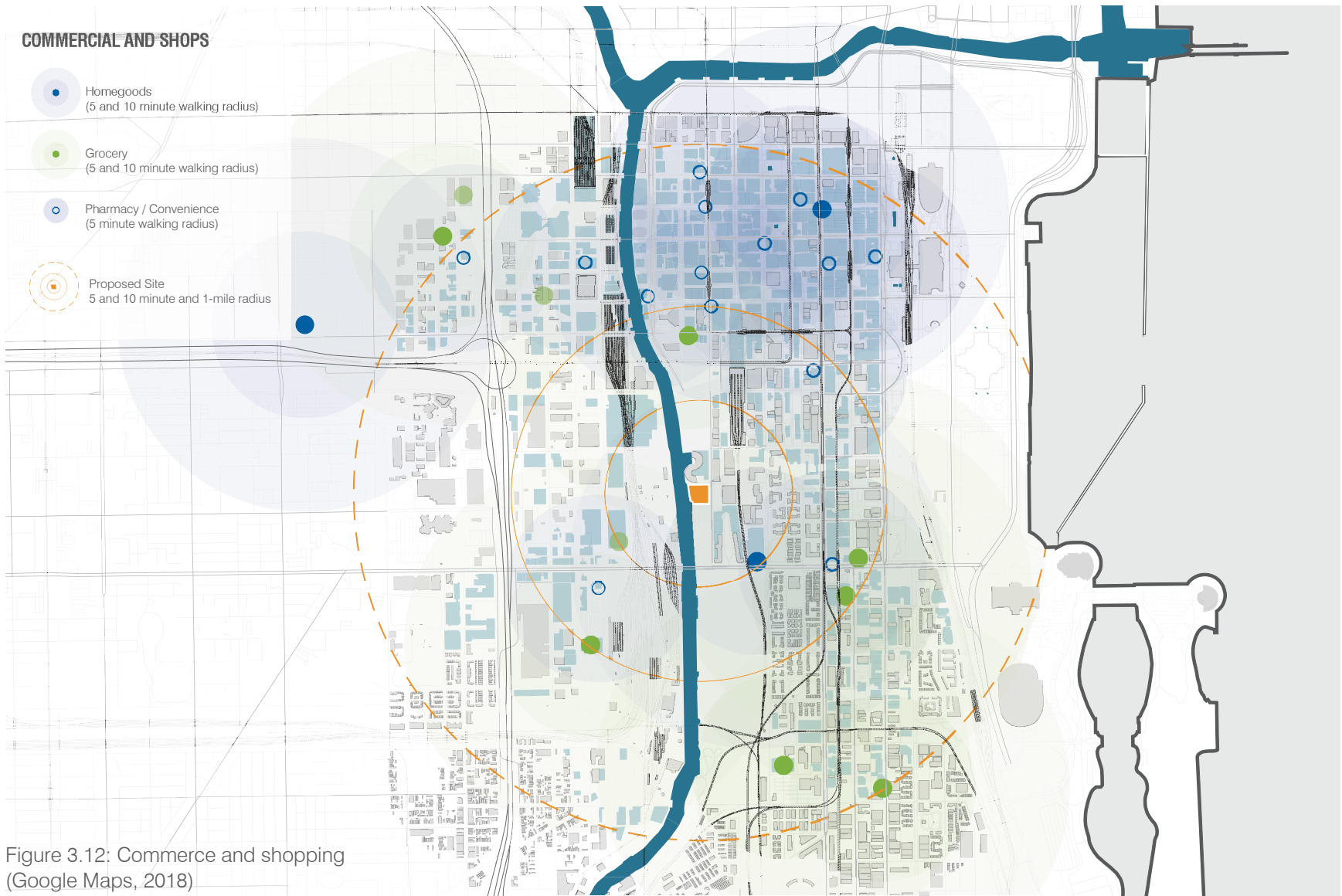


Figure 3.12: Commerce and shopping (Google Maps, 2018)

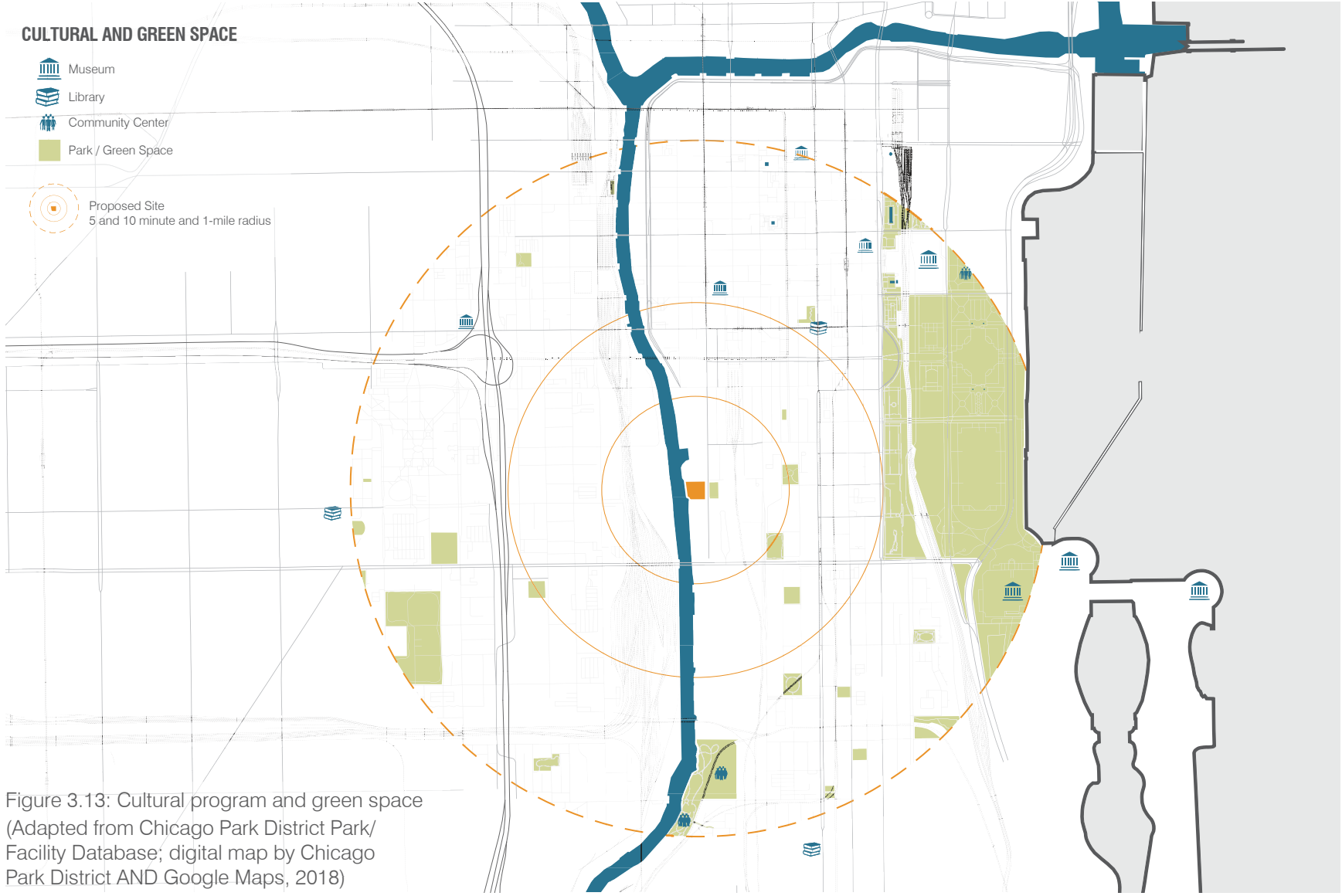


Figure 3.13: Cultural program and green space
(Adapted from Chicago Park District Park/
Facility Database; digital map by Chicago
Park District AND Google Maps, 2018)

On the grounds floor (Figure 3.14), a community plaza and riverfront plaza address the two fronts of the site (Figure 3.16). A play space connects this site to recreational program of the soccer field, found at the adjacent school, and addresses the lack of recreation space in the near south side (Figure 3.17). A Recreation Center (Figure 2.14, 3.15, and 3.18) adds to recreational program of the site and further draws community members into the site. A library and community center, like the recreation center, draws in the greater community and adds to the cultural and community program currently lacking in the South Loop. An international food market meets the needs of both the refugee's living at this site and also residents of the diverse neighborhoods surrounding the site (Figure 3.19). A refugee support office (Figure 3.15) above the grocery ensures that refugee services are on site and easily accessible to refugees.

Program on the Riverwalk side takes advantage of increased foot traffic through this side of the site- commercial activity is centralized around the Riverwalk plaza (Figure 3.20). Program here provides alternative employment opportunities allowing space for entrepreneurs and small businesses. Program includes nine live-work units and a commercial bazaar with a co-working office above. A makerspace connects community and commercial program as it can be used by both (Figure 3.21).



Figure 3.14: Design Solution - Level 1



Figure 3.15: Design Solution - Level 2

EAST-WEST SECTION PERSPECTIVE



Figure 3.16: Rendered East-West section perspective through site

COURTYARD AT THE COMMUNITY FRONT



Figure 3.17: View of site from adjacent existing soccer field. Showing (from left to right) the international grocery store with refugee support office above, the library and community center, entrance to the pedestrian walkway linking the community plaza and riverfront plaza, and the outdoor playspace and recreation center.

RECREATION CENTER LOBBY



Figure 3.18: View from Entry of Recreation Center

COMMUNITY FRONT - LIBRARY AND GROCERY ENTRY



Figure 3.19: View of community/recreation plaza, grocery, and library entry from street / bus terminal

RIVER FRONT



Figure 3.20: View of riverfront plaza showing (from left to right) the water taxi terminal, commercial bazaar, co-working offices, and live-work units

**MAKERSPACE AND CO-WORKING UNITS
FROM THE RIVERWALK EXTENSION**



Figure 3.21: View down riverwalk connection showing (left) live-work units and (right) makerspace



Figure 3.22: Interaction between residents

INTERACTION

[Promoting Interaction between the Users] (Figure 3.22)

Interaction between the users is promoted through four strategies:

Shared Programmatic Elements

Programmatic elements used by all residents as well as community members increase interaction of users. This includes much of the program already mentioned- both the recreation plaza and riverfront plaza, recreation center, library and community center, makerspace, as well as the commercial bazaar, and co-working office. These programs are not limited to just refugees or residents but can act as amenities for all residents and community members.

Ground Level Porosity

Porosity at the ground level and transparency between the shared program increase visibility between the different programmatic spaces and creating a visual connection between their users- both residents and the greater community.

As seen on the Level 1 plan (Figure 3.14), various pedestrian corridors allow for pedestrian movement through the site. A pedestrian corridor running East-West through the site connects the community front to the river front (Figure 3.21), while a corridor running North-South connects this site to the adjacent sites along the Riverwalk (Figure 3.23). Openings between live-work units reinforce the connection between the NS pedestrian corridor and the Riverwalk plaza.

Increased glazing at the ground floor provides transparency between the interior and exterior programs and creates a visual connection between users of each space. This is particularly evident from the EW pedestrian corridor where transparency creates a connection between the library and recreation center gym through the exterior corridor

(Figure 3.23).

Adding another level of porosity, a series of sliding doors allow spaces to completely open allowing program to spill out into the plazas. Using these doors, the commercial bazaar can become a craft fair or flea market; the international grocery can expand to become a farmers' market; and the recreation center can open to increase ventilation in the bouldering gym or accommodate the audience for a competition (Figure 3.14).

Connection to Existing Mobility Systems

Plugging into existing mobility systems increases traffic through the site. In addition to circulation through the site by way of pedestrian corridors (mentioned in the previous section), the NS pedestrian corridor connects to the existing Riverwalk path that runs under the building to the north of this site. The proposed projects at the vacant lot both north and south of this site- also along the Riverwalk- have proposed Riverwalk and riverfront park extensions. Once completed, the Riverwalk path (Figure 3.21) and park (Figure 3.20) proposed on this site will connect to what will become a new 1.5-mile path and park devoted to river access, recreation, and commercial activity.

On the river front side, a water taxi terminal plugs into the existing water taxi route. Introducing a stop along the existing 2-mile stretch that currently has no other stops (Figure 3.11). On the community front, a new bus terminal connects introduces a new opportunity for a transit line directly to and from the site. This new bus line will not only services residents and visitors to this site, but also the new developments along the river.

**PEDESTRIAN CORRIDOR BETWEEN
LIBRARY AND RECREATION CENTER**



Figure 3.23: View down pedestrian corridor showing transparency of the ground floor and (left) library and community center, (right) recreation center, and (beyond) live-work units, water taxi terminal, and riverfront plaza

Public spaces of Varying Scales

In addition to the recreation plaza and Riverwalk plaza, at the ground level, public spaces are scattered throughout the project (Figure 3.24 and 3.25a-b). In particular, on the third floor (Figure 3.26), residential units are organized around 1 of 4 resident courtyards. Circulation to the units follow the perimeter of the courtyards, while unit entries and kitchens face into the courtyard, keep eyes on the space and increase resident interaction (Figure 3.27). Planter boxes scattered throughout the various level 3 courtyards add another level of use, activate the community space, and introduce another opportunity for resident interaction. Smaller planter boxes at unit entries provide a buffer between semi-public circulation and allow a certain level of self-expression as each household may choose to plant what they like- whether flowers, herbs, vegetable, or just simple greenery or grasses (Figure 3.28).

Also at level 3, a community room with kitchen and seating provides an opportunity for residents to gather sharing a meal or have a celebration. This is especially important for ceremonial, celebratory, or religious meals shared by refugees such as fast-breaking 'iftar' dinners during Ramadan. A shared laundry facility creates a space for casual resident interaction. Additional green roofs are distributed throughout the units for more intimate gathering spaces for the residents (Figure 3.26a-b).



Figure 3.24: Design solution - Levels 4-6

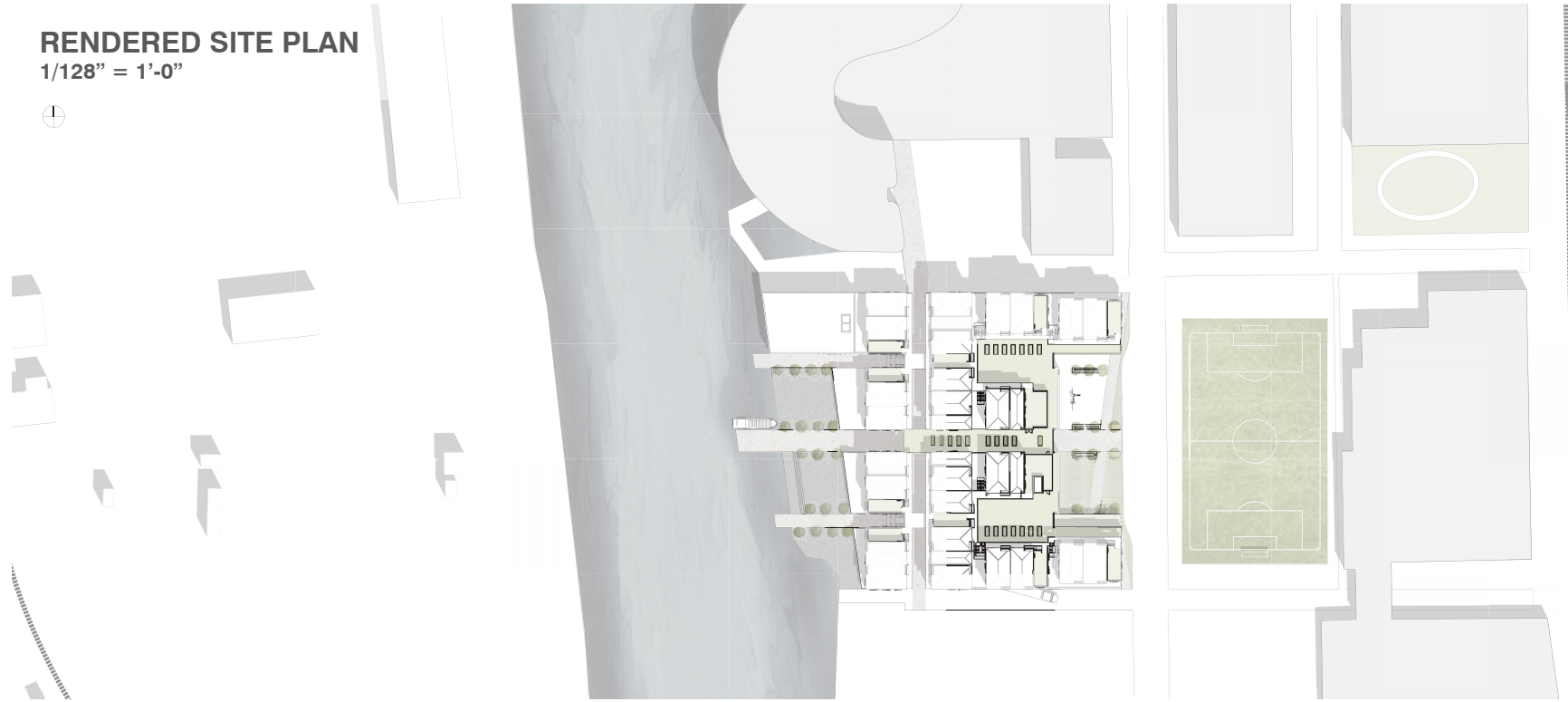


Figure 3.25a: Rendered site plan showing public green spaces throughout the site

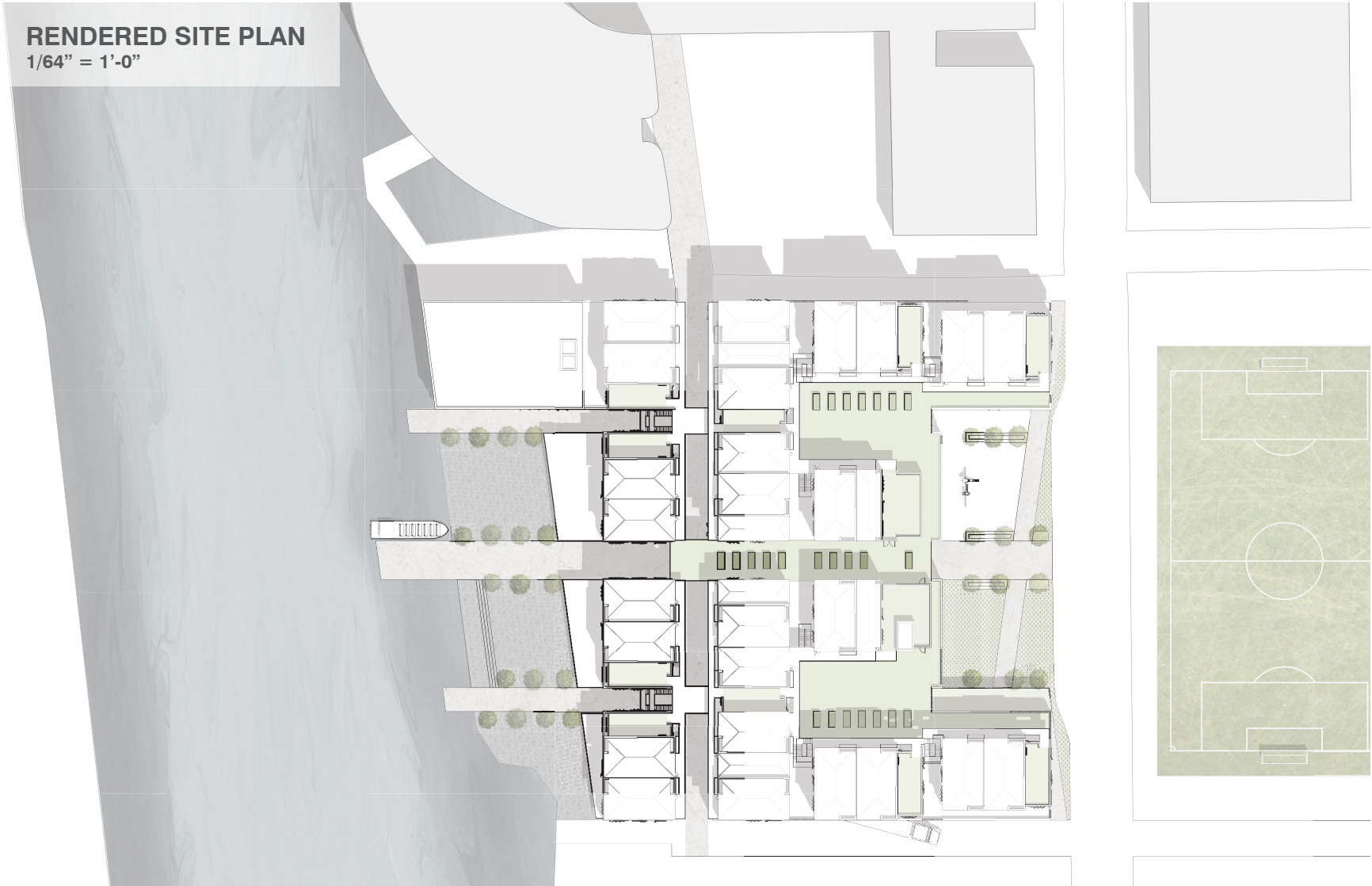


Figure 3.25b: Rendered site plan (zoomed in)

LEVEL 3 - RESIDENTIAL

1/64" = 1'-0"

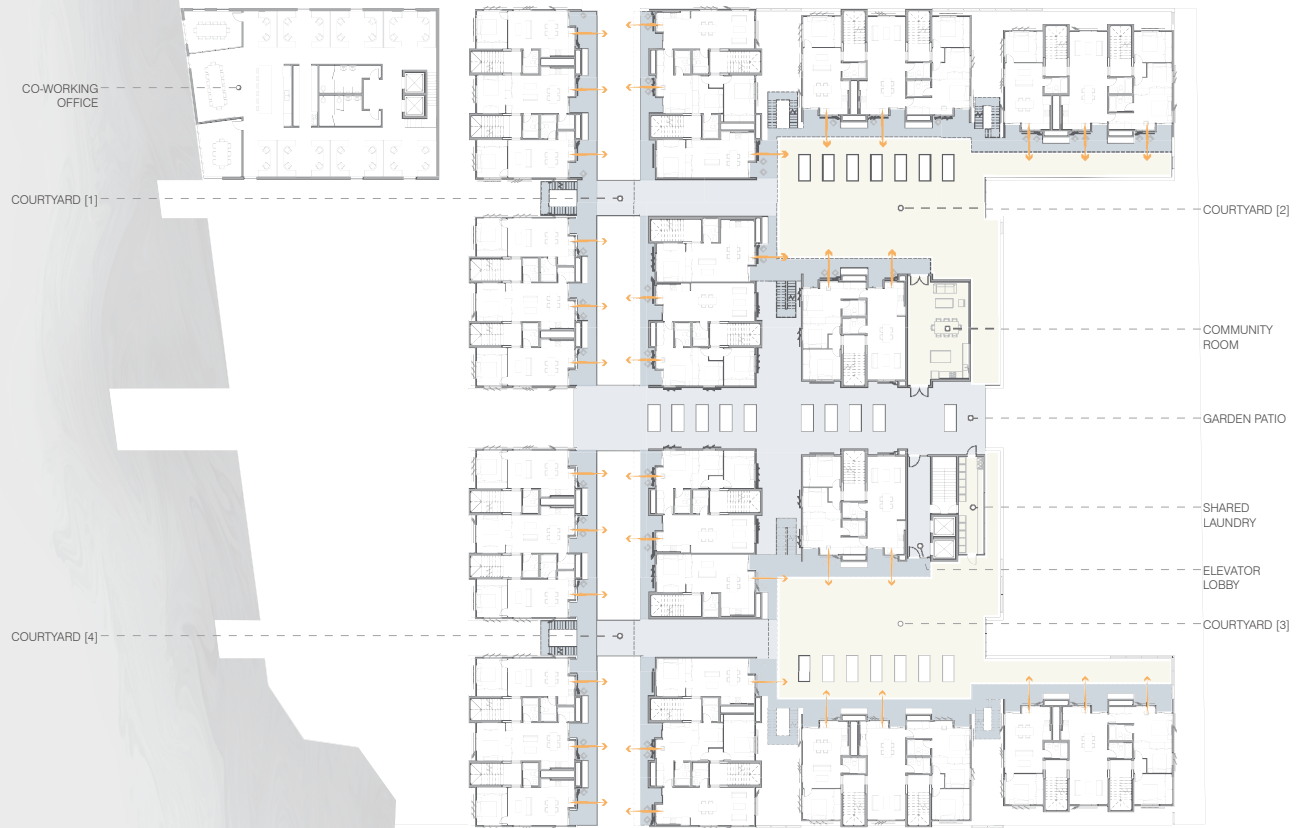


Figure 3.26: Design solution - Level 3

NORTH-SOUTH SECTION PERSPECTIVE



Figure 3.27: Rendered North-South section perspective through Site

VIEW FROM WALKWAY INTO COURTYARD



Figure 3.28: Section Perspective through unit kitchens looking into the resident courtyard at Level 3

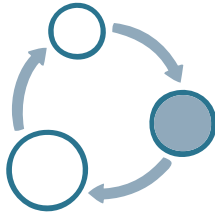


Figure 3.29: Flexibility, adaptability and customization

ADAPTATION

[Designing for Flexibility, Adaptability, and Customization] (Figure 3.29)

Flexibility is achieved at two scales; the unit and the facade through the notion of +, -, Δ (or adding, subtracting, and changing elements to achieve maximum customization). In this way, both the units and the facade directly respond to the unique needs of the diverse residents and their changing needs over time.

Unit: + / -

Between each module, staircases and double doors allow adjacent modules to be joined together in order to expand units vertically and/or horizontally. In this way, the square footage of the units can accommodate the family as the household size expands and contracts. For instance, if the family size increases from 5 members to 7 due to refugee family reunification, the unit may expand horizontally from 2 modules to 3 modules so that the extended family can live close by (Figure 3.30a). Similarly, if the family undergoes lifestyle changes- for example a parent begins working from home- the unit might expand vertically from 1 module to 2 to accommodate an in-unit office (Figure 3.30b). This is important as this change may reduce childcare costs and allow for increased family interactions. Conversely, as the children of a household grow and move out of their parents' house, the parents may choose to downsize; in which case, the unit may contract from 2 modules to 1 and allow this extra module to be absorbed by an adjacent household needing more space (Figure 3.30c).



- Family size increases from 5 members to 7 due to refugee family reunification
- Unit expands horizontally from 2 modules to 3 modules
- Extended family can live close by

Figure 3.30a: Flexibility of the unit: unit expands horizontally



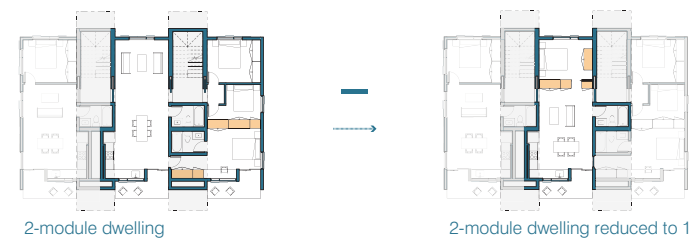
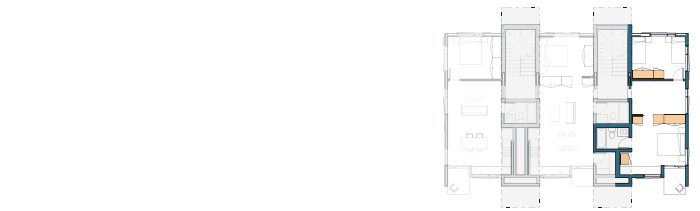
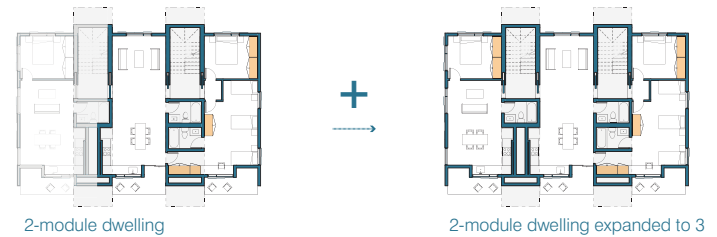
- Family changes - parent works from home
- Unit expands vertically from 1 module to 2 modules
- In-unit office added so parent can work from home

Figure 3.30b: Flexibility of the unit: unit expands vertically



- Family size is reduced - adult children move out of house
- Unit contracts from 2 modules to 1 module
- 3-bedroom unit is reduced to 1 bedroom

Figure 3.30c: Flexibility of the unit: unit reduced



Unit: Δ

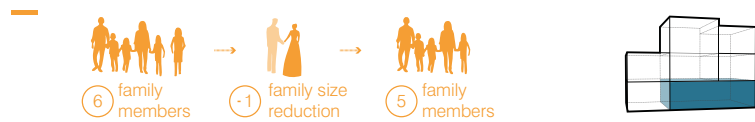
Flexibility within unit adds another layer of flexibility allowing resident to easily customize their unit to fit their lifestyles and allows for units to morph to fit greater or fewer residents as the family grows and shrinks. A modular, movable casework has been designed to allow resident to subdivide their space to add rooms, change their size, or remove room to open up spaces (Figure 3.31).

Consider a family of 4 that grows to 6 members; a 2-module unit may adapt by converting a large living space into a smaller space and additional bedroom, while an ensuite nursery can be added in the master bedroom (Figure 3.30d). On the other hand, if the family size is reduced, a bedroom may be removed and the adjacent living space increased (Figure 3.30e).



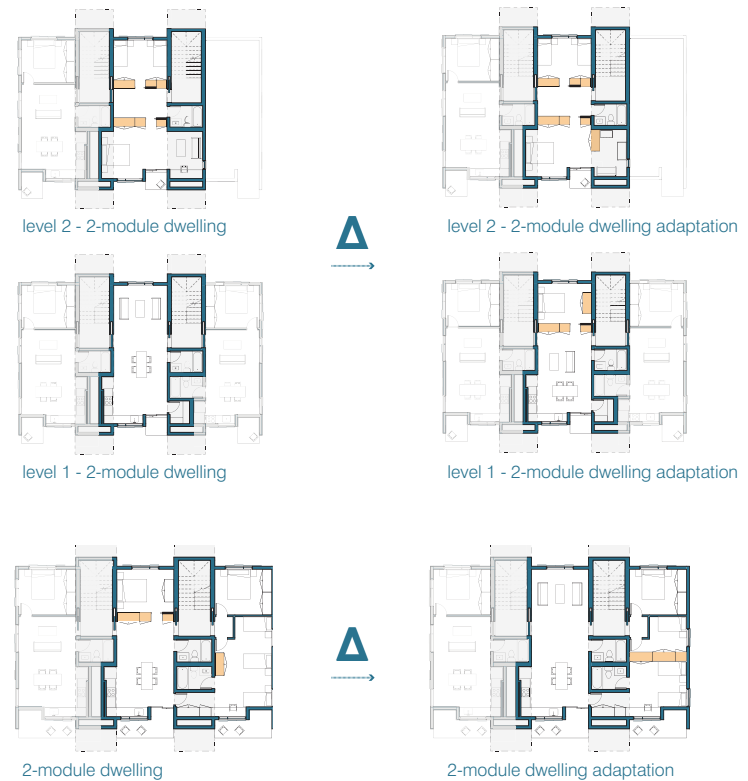
- Family grows - from 4 members to 6
- Unit adapts
- An additional bedroom and ensuite nursery are added

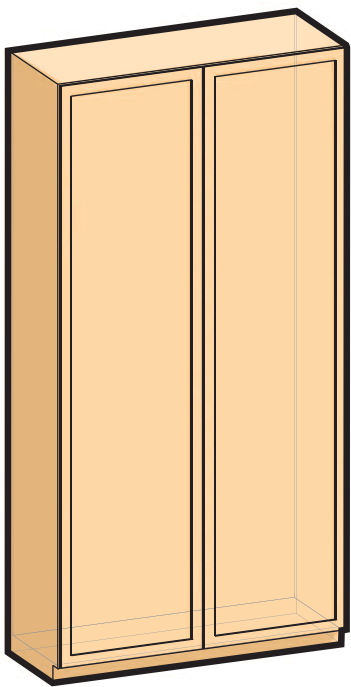
Figure 3.30d: Flexibility of the unit: unit adapts



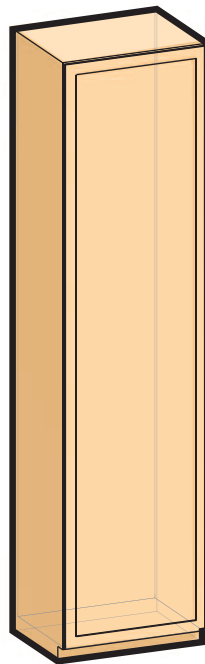
- Family size is reduced - from 6 members to 5
- Unit adapts
- 1 bedroom is removed and living space is increased

Figure 3.30e: Flexibility of the unit: unit adapts

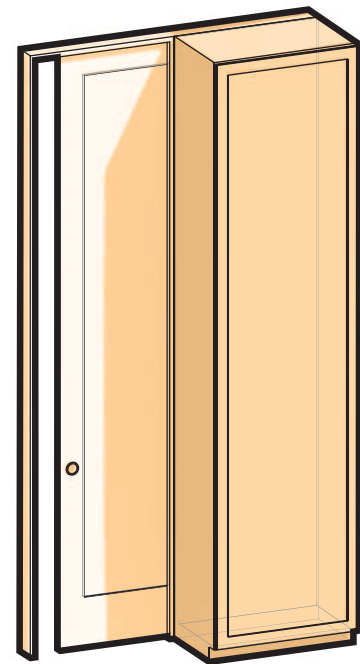




5'-0" Module



2'-6" Module



2'-6" Module
w/ built-in pocket door

Figure 3.31: Modular casework used to achieve unit flexibility

Facade

Flexibility of facade allows residents to customize window openings to balance daylighting and privacy based on the use of the space and their comfort level (Figure 3.32). This is especially important as spaces may change functions within the unit depending on the family's needs. For instance, a living room may be converted to a bedroom (as is the case in the example given in Figure 3.30d); in this case, the family may require the façade to provide more privacy and the window screens may be closed. A bedroom may turn into a home office (see example in Figure 3.30b); in this case, the room may require less privacy or more daylight and the screens may be rotated or slid aside. Window screens can be rotated or slid aside in a seemingly unending number of configurations to suit each residents' preference (Figure 3.33). This customization gives residents a certain degree of control over their space and allows for increased self-expression (Figure 3.34).

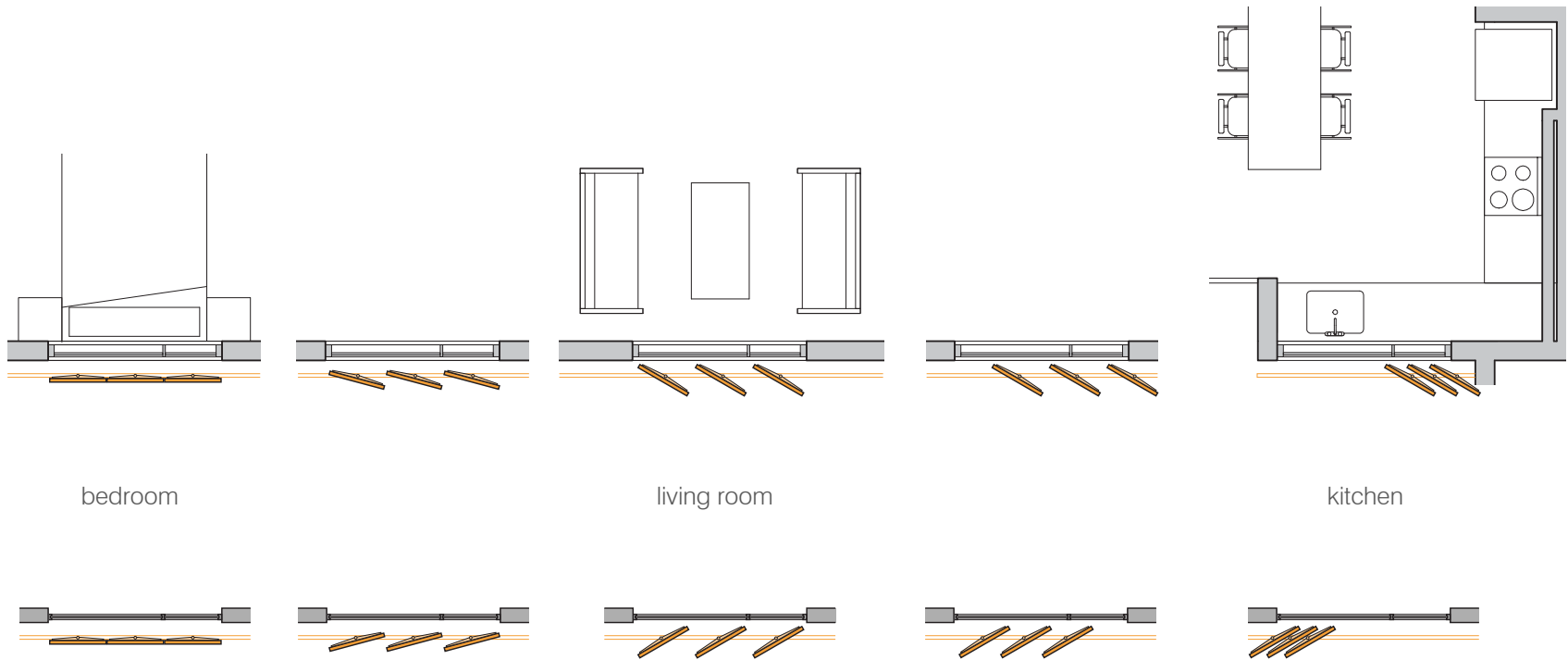


Figure 3.32: Movable window screens used to achieve facade flexibility

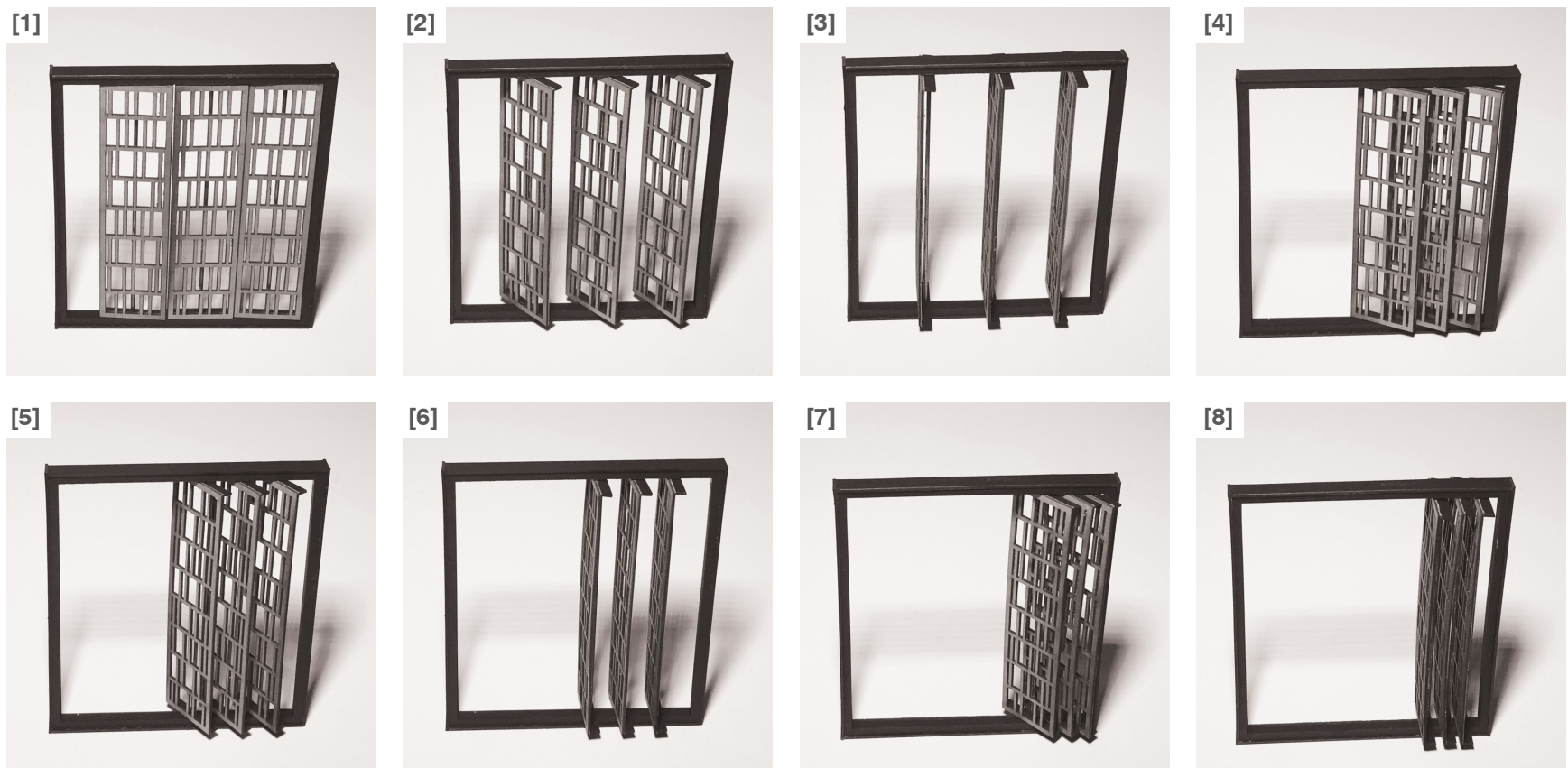


Figure 3.33: Scale model of movable window screen movement

RESIDENT COURTYARD AT LEVEL 3



Figure 3.34: Resident courtyard at level 3 showing flexibility of the window screens

CHAPTER 4: CONCLUSION

Housing for refugees must be more than a roof and four walls, it must address countless social, cultural, and economic issues as well. Without adequate housing, refugees struggle to resettle in this new and unfamiliar county. For this reason, architects, designers, and urban planners have a responsibility to design in a way that enhances the everyday lives of visitors, users, and inhabitants.

The following pages contain a graphic summary of the three guiding principles developed through this these.

Through **integration** both refugee and native born, low- and high-income, young and old users are brought together, and a diverse program is curated to meet their various needs (Figure 3.35a).

Spaces that encourage **interaction** provide opportunities for these diverse users to interact and connect with one another, introducing opportunities for refugees to assimilate with native-born users and more quickly adapt to their new and unfamiliar environment (Figure 3.35b).

Adaptation of both the unit and facade accommodates a variety of cultural differences between refugee families by anticipating the differences of how one family may use their space from another and accommodates changes in both the refugee and native-born family structure over time (Figure 3.35c).

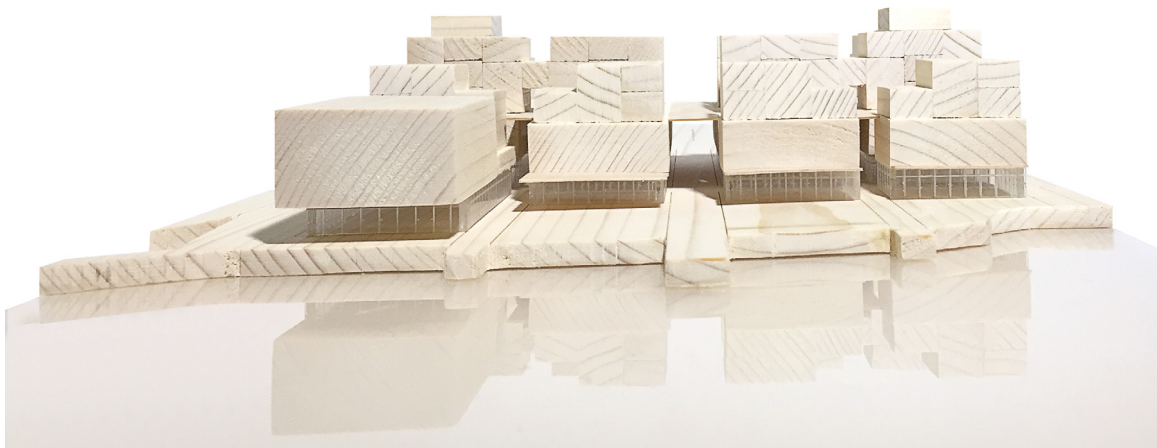


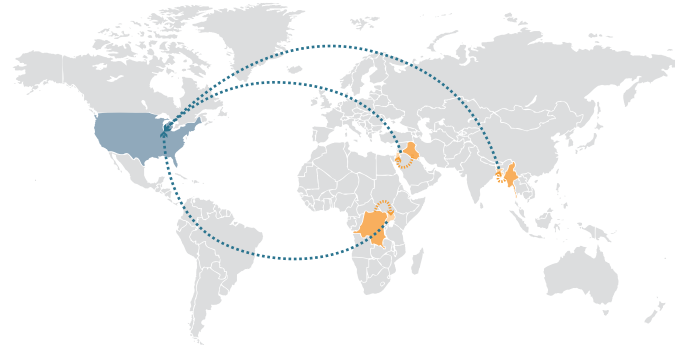
Figure 3.35: Physical model - from river, looking east



INTEGRATION

INTEGRATE PEOPLE addresses the diversity of the users

- Acknowledge diversity of Refugee origins
- Integration with native-born residents
- Mixed-Family Structures
- Mixed-Income



diversity of refugee origins, cultures, religions, education level, role of men and women



diversity of refugee past experiences as an asylee



integration of users: refugee residents, native-born residents and community members; differing family structures, and low- and high-income residents

INTEGRATE PROGRAMS meets the diverse of needs of the users

- Mixed-Use
- Support Office on Site
- Integrated Employment



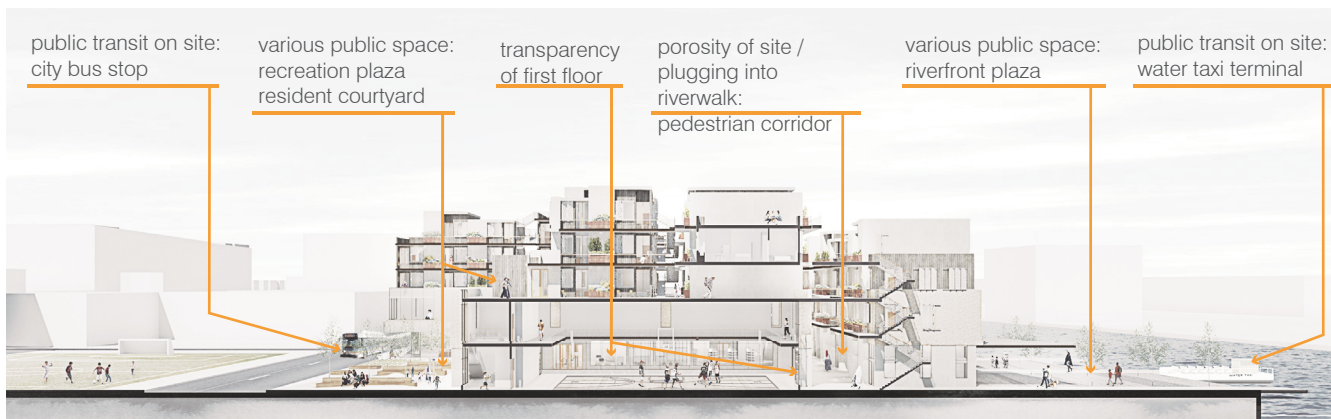
Figure 3.36a: Integration summary- design guidelines for refugee resettlement housing in the United States



INTERACTION

PROMOTE INTERACTION BETWEEN USERS

- Programmatic elements used by all residents as well as community members
- Public spaces of varying scales
- Porosity at the ground level and transparency between the shared program increase visibility both of people and programs
- plugging into existing mobility systems to increase traffic through the site



resident-shared spaces: community room, shared laundry, **garden courtyards**

resident circulation around perimeter of courtyards

unit entries and kitchens face into the shared courtyard

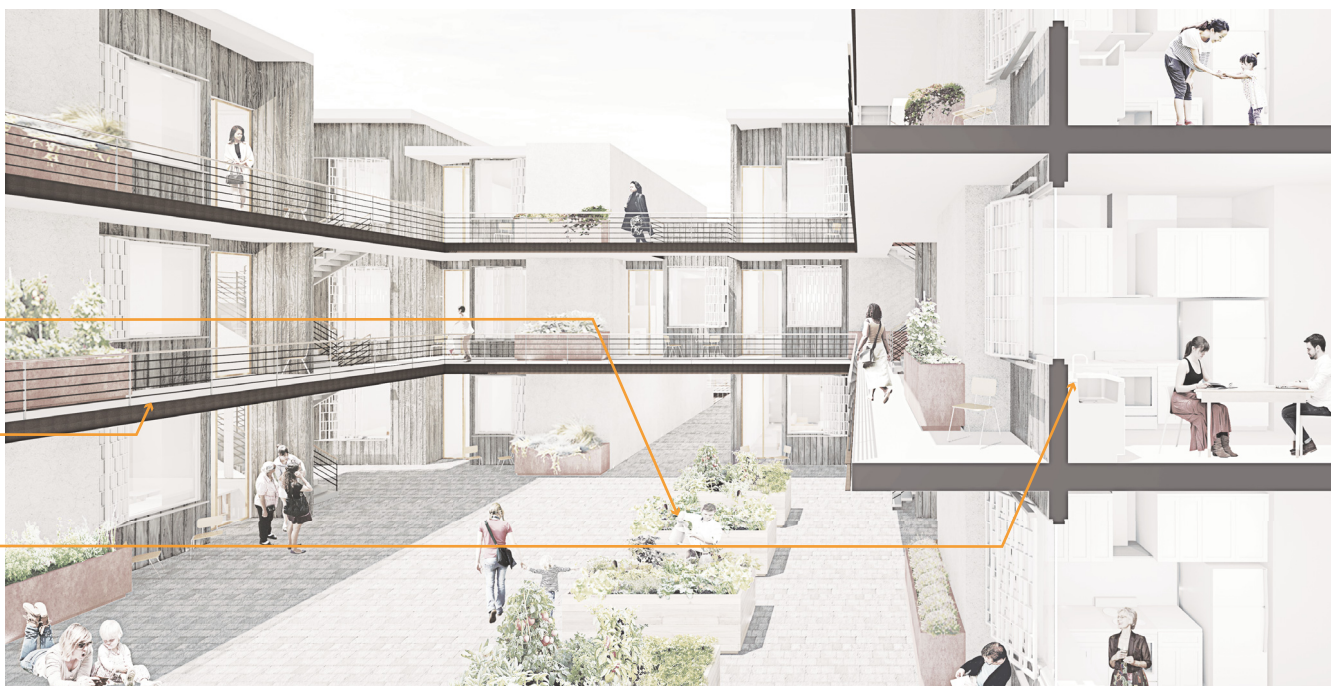


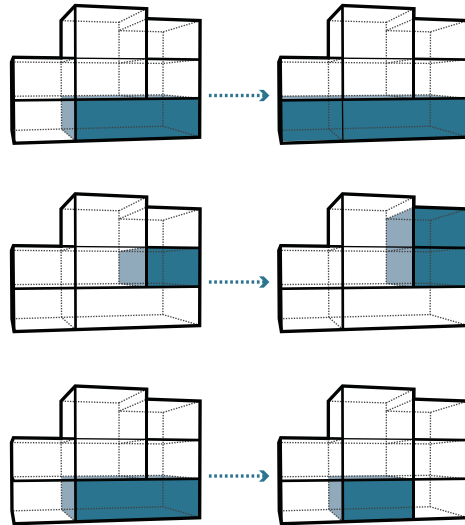
Figure 3.36b: Interaction summary- design guidelines for refugee resettlement housing in the United States



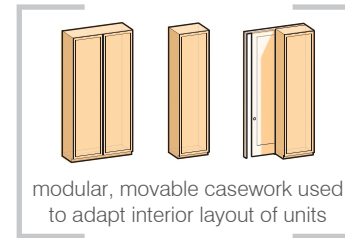
ADAPTATION
DESIGN FOR FLEXIBILITY,
ADAPTATION, AND
CUSTOMIZATION

Approached through two scales;
- the unit
- the facade
Achieved through the notion of
+, -, Δ (or adding, subtracting,
and changing elements) to
achieve maximum
customization.

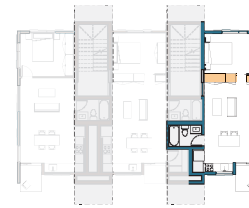
Unit Flexibility



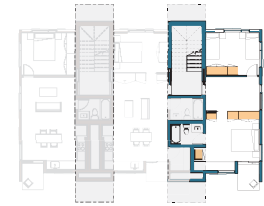
residential units are able to grow or shrink in size by joining with or separating from adjacent modules



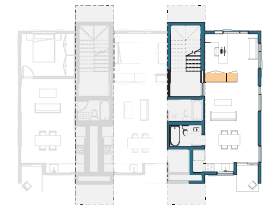
modular, movable casework used to adapt interior layout of units



LEVEL 1 - 1 MODULE DWELLING



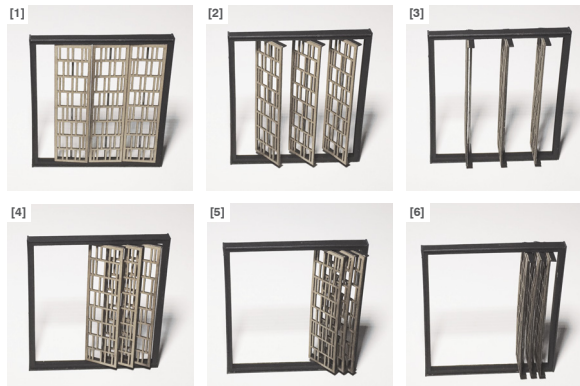
LEVEL 2 - 1 MODULE DWELLING EXPANDED TO 2 MODULES



LEVEL 1 - 1 MODULE DWELLING EXPANDED TO 2 MODULES

flexibility of the unit- achieved through joining adjacent units vertically through use of inter-module staircase and modular movable casework

Facade Flexibility



movable window screens allows residents to customize window openings to balance daylighting and privacy level



Figure 3.36c: Adaptation summary- design guidelines for refugee resettlement housing in the United States

This solution is not limited to the South Loop, the city of Chicago, nor the state of Illinois. Throughout the United States, refugee housing can become a hub of educational, cultural, health, and civic partnership, improving not only the refugees' experience of resettlement, but also advancing each community in which refugees are resettled. Used in conjunction with one another, these principles introduce an alternative to current refugee housing practices. By changing the way refugee housing is implemented, asylum seekers can better integrate into their new communities. Through Integration, Interaction, and Adaptation, housing provided for refugees in the U.S. can begin to help asylum seekers more quickly adapt to life in this new and unfamiliar country.

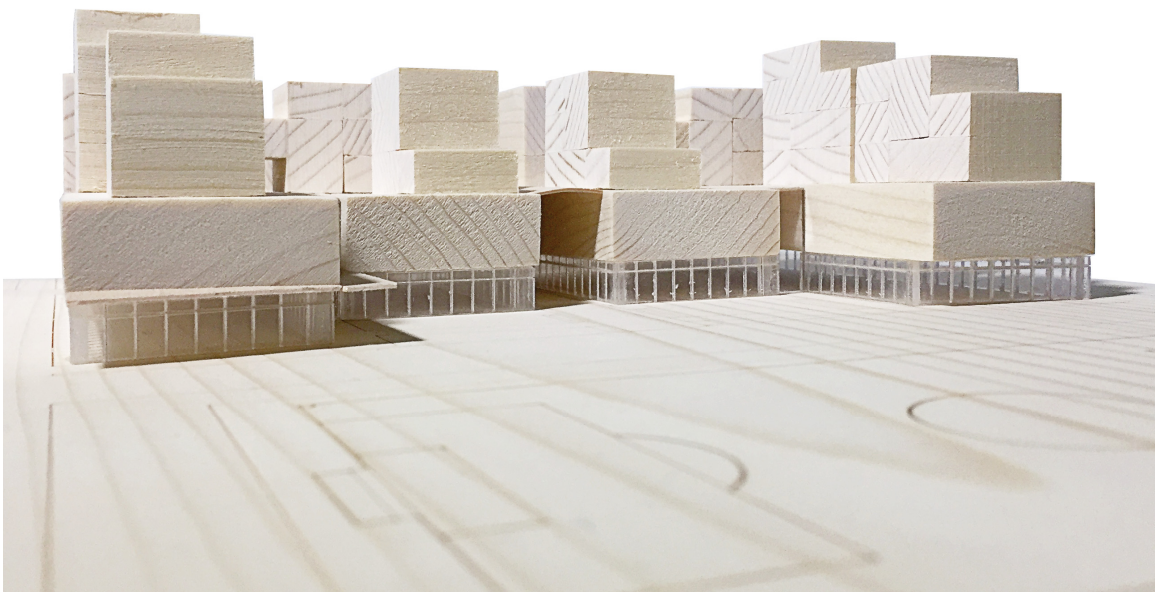


Figure 3.37: Physical model - from soccer feild, looking northwest

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